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TABLE OF CONTENTS

I	INDEX OF ABSTRACTS OF CURRENT LITERATURE	iii
II	AUTHORS	xii
III	ABSTRACTS OF CURRENT LITERATURE	i-90
IV	BIBLIOGRAPHY OF CURRENT LITERATURE	91-116

ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

Aseptic and Antiseptic Surgery	
JACOBSON O	No Danger of Iodine Intoxication from Skin Disinfection with Tincture of Iodine
LOHMEYER H	Disinfection of the Field of Operation with Thymol Alcohol
Anesthetics	
HARRIS C	Administration of Alkaloids before Anesthesia
BOOTHBY W M	Ether Percentages
PECK C H	Intratracheal Insufflation Anesthesia
DONALDSON H J	A Year's Experience with Spinal Anesthesia
HEWDERSON Y	A Comparison of the Immediate and After Effects of Spinal and Local Anesthesia with Those of Inhalational Anesthesia in Respect to Shock and Psychic Shock
DRAWMAN L A	Pantopon-Scopolamine Anesthesia and Its Combination with Local Anesthesia
MITCHELL J F	Local Anesthesia
LASTOTSCHNIK J I	Hedonal Anesthesia
GADD P	Regional Anesthesia

SURGERY OF THE HEAD AND NECK

Head	
VULLIAMY H	Syphilis of the Salivary Glands
MURPHY J B	Bony Ankylosis of the Jaw with Interposition of Flaps from Temporal Fascia
HAYES I S	Cisterna Sinus Drainage for Hydrocephalus
CLUBBINS W R	A Compilation of the Methods Used and the Results Obtained by Fellows of the Chicago Surgical Society in Brain Surgery
BÄRAN R	Clinical Development of My Symptom Complex
MARY H	Surgery of Tumors of the Cerebellum-Tonsil Angle
FERRIS H	Pharmacological Investigations in Regard to the Action of Constituents of the Hypophysis
LEGER A	Some Features of Röntgenographic Changes in Pituitary Diseases
PERITZ G	Diseases of the Hypophysis
SCULLER A	Dystrophia Adiposo-Genitalis
GOLDZIEH R W	A Tumor of the Pineal Gland

Neck

BLUM F and GRÜTZNER R	Studies on the Physiology of the Thyroid Gland, Methods of Iodine Determination in Organic Substances
-----------------------	---

SURGERY OF THE CHEST

Chest Wall and Breast	
MURPHY J B	Cylindric Cell Carcinoma of the Breast
KROH V M	Local Anesthesia in Breast Amputation
KING H M and MILLS G W	Therapeutic Artificial Pneumothorax
THOMAS G I	The Röntgen Diagnosis of Lesions in the Region of the Mediastinum
Heart and Vascular System	
SCHOLZ B	The Clinical Picture of Traumatic Rupture of the Heart
WERNER L	Direct Massage of the Heart
Pharynx and Esophagus	
MILLSPACH W P	Some Interest in Esophageal Cases
METZ W	Esophagoplasty
DEWE W	The Radical Operation for Carcinoma of the Esophagus

MISCELLANEOUS

TYLER	Statics and Mechanics of the Thoracic Viscera
HILSCHEN K	Fascia Transplantation to Cover Defects in the Diaphragm Chest Wall and Pericardium

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum	
VERHOOGH J	The Transverse Incision in Abdominal Surgery
WEISHAUPT E	A Case of Extrapertoneal Adenoma and Two Cases of Intraperitoneal Myoma of the Round Ligament with Remarks in Regard to the Origin of Incisions of the Fifth Lumbar
GÖTTJE H	Surgical Treatment of Ascites
SICK C and FRAEYER E	The So-Called Biliary Peritonitis

- WEBER F I jury with a Pointed Instrument with Comments on Prophylaxis and Treatment of Pilonitis 13
- DESPARD D L S bdiaphragmatic Abscess 13
- DAVIES T F A Method of Operating for Rad cal Cure of Inguinal Hernia 14
- DREWSMAN H The Radical Operation f I gunal Hernia 4
- Gastro-Intestinal Tract**
- SEVER J W The Position of th Stomach n Children in Relation to Posture 4
- SHI REN J D gnosis and Surgical Treatment of Gastric and Duodenal Ulcers Report of 369 Operative Cases 5
- HALL, J V The Complications of Peptic Ulcer 16
- WISE W D Acute Perforating Gastric and Duodenal Ulcer A Report of Nine Cases 16
- STOVER G H Röntgenology in Estimating th Operability of Carcinoma Gastrica 17
- CHASTNET DE GRÉY M Autoplasty of th Stomach by Transplantation of an I ntestinal Loop 17
- COLE L G Physiology f the Pylorus Pileus Ventriculi and Duodenum as Observed Rontgenographically 17
- KNAOCH R L R troperitoneal R pture of the Duodenum 8
- WILLIE D P D Duoden I D ertical d Duplication of the Duodenal Wall 9
- HUNTWELL, J A Intest l Obstruction 9
- KAHN L M The Absence of the Sausage Shaped Tumor nd the Mass per Rectum in I tus-suction in Infant 20
- SCHUBERT G Contributions to Post Operative Ileus 2
- SABAKI J The Comparative Value f Free Flaps from the Omentum, Peritoneum, and Mesentery for Strengthening S tures 1
- FRA K Atra of the An 1
- BARNES, R H A Method of Operating on Fist la without C tting Muscular T ruse 1
- ZONEL, A J A Further Consideration of Sur Chal es Ball Operation for Internal Hemorrhoids 21
- Liver Pancreas and Spleen**
- CASE, J T Rontgenoscopy of the Lr and Biliary P ssages with Special Reference to Gall Stones 22
- WALJASCHKO G A and LEBEDUEV A A The Treat-ment of Injuries f the Lr and Spleen and Kidneys 3
- BUCKLEY P True Total E ucleation of Two Hydated Cysts from the Same Lr 3
- ERDMANN J G A ut P ncreatitis 3
- KOPYLOV W Splenectomy in V larial Diseases of the Spleen 4
- OWEN S A Syphilitic Diseases of Joints and Bones in Childhood Their Differential Diagnosis from th Medical Standpoint 5
- BILLINGS F Chronic Local Infection as a Cause of Factor in Chronic Arthritis 26
- DAVIS, D J Chronic Streptococcus Arthritis 26
- MAGNUS Experimental Investigations in regard to Purulent Arthritis and Secondary Symptoms 27
- ELMSLEE R C Physical Treatment of Joint Diseases, Particularly Tuberculosis 27
- DUTTOV, T The Treatment of Tuberculous Joints by the Internal and External Use of Iodine 27
- TEUCH H Atrophy of the Muscles in Affectio s of the Joints 7
- Fractures and Dislocations**
- HAWLEY G W Spontaneous Fracture in Carcinoma of the Bones 27
- RICKFORD, E The Mechanics of Production of Certain Fractures Greenstick Fractures, Buckling Fractures Flexion and Torsion Fractures 28
- FISCHER E A Portable Extension Apparatus for the Treatment of Dislocated Fractures of the Upper Extremities and the Patella 28
- SKINNER E H The Mechanical Calculation of Prognosis in Fracture of the Ankle and Wrist 28
- HAUDEK, M Central Dislocation of the Femur 29
- MURPHY J B Fixation of the Knee with Backward Luxation of the Tibia 29
- Surgery of the Bone Joints Etc**
- FRANKMAN L The External Bone Clamp Versus the Internal Bone Plate in the Operative Treatment of Fractures 30
- GROVER, E W H Experimental Observations on the Repair of Fractures and th Influence upon it of Various Operative Procedures 30
- HESSE F A The Therapy of Congenital Defects of the Fibula with Contribution to th Technique f Operation on the Epiphysis 31
- VON TAPPEINER, F H Transplantation of Epiphysis and Joint Cartilage 31
- FORBES A M The Surgical Treatment of Monarticular Rheumatoid Arthritis of the Hip 3
- STUFFEL, A, and STOFFEL E New Positions in regard to Trochanteric Transplantation 32
- Orthopedics in General**
- BERG, P Moulding Deformity of the Wrist Joint Carpus Valgus 33
- BÖHM M Congenital Developmental Defect in the Skeleton of the Trunk 33
- WHITCK B H The Importance of the Treatment of Wrist Feet in Childhood 33
- SWEELEY M T Gymnastics for Crippled Children 33

SURGERY OF THE EXTREMITIES

- Diseases of Bones, Joints Muscles Tendons General Conditions Commonly Found in the Extremities**
- WEISS, K Hypophysal Treatment of Rickets 5
- HORWITZ S H Osteitis Deformans, Paget's Disease 25
- ELY L W Diseases f Joint and Bone Marrow 5

SURGERY OF THE SPINAL COLUMN AND CORD

- ELBERG C A Some Surgical Features of Injuries of the Spine with Special Reference to Spinal Fracture 34
- SCHWARTZ, A The Treatment f Scoliosis 34

- OLLERENSHAW R. Sacrococcygeal Tumors 35
 LAW A A. Ventral Tumors of the Sacrum 35
 MURPHY J B. Post Sacral Dermoid 36
 MURPHY J B. Lumpectomy for Aneurism of the Stomach 36

SURGERY OF THE NERVOUS SYSTEM

- LEBICHE R and DUBOIS P. Four Cases of Stretching of the Solar Plexus for the Gastric Crises of Palsies 37

MISCELLANEOUS

- Clinical Entities—Tumors Ulcers Abscesses Etc.
 CARREL A. Contribution to the Study of the Mechanism of the Growth of Connective Tissue 37
 FRIEDMAN J C and HAMBURGER W W. Value of Edetan and Peptone in Diagnosis of Cancer of the Stomach 37
 GORTZ O M. Multiple Primary Carcinomata 38
 HENDERSON Y. The Pathology of Shock 38
 BROCA A. Surgery of Childhood 39
 Sera, Vaccines and Ferments
 SHATLECK G C and WHITTEMORE W S. Gonococcus Vaccines and Glycerine Extracts of the Gonococcus in the Diagnosis of Gonorrheal Infections 40

- KOMAROWSKY M. Treatment of Gonorrheal Affections with Gonococcus Vaccine 40
 Blood and Lymph Vessels
 TSCHERNICHOVSKY E. Suturing the Vessels in the Treatment of Aneurism 40
 NASAROFF W M. Injuries of the Thoracic Duct in Operations on the Left Supraclavicular Region 41

Surgery Therapeutics

- HAILL G. The Influence of Pituitrin upon Blood Pressure after Hemorrhage 41
 CASPARY E. Physico-Chemical Treatment of Cancer with Vaccine and Serum Treatment of Cancer 41

Electrology

- AAGAARD V. A Method for Removing the Discoloration from Stained Radiograms 42
 PIRIE A H. A Sliding Diaphragm for Improving the Quality of Skiagraphs 42
 CADOT S. An Analysis of the Various Forms of Energy Applied to the Generation of X Rays 42
 OPTIZ E. Supplements to the X Ray Treatment of Malignant Tumors 43
 KIENBOCK R. Radiotherapy of Malignant Diseases 44
 MACKER C M. Therapeutic Technique 44
 ROBERTS F J. The Therapeutic Value of Secondary Rays Produced from Metals by the Action of Röntgen Rays 45

GYNECOLOGY

- Uterus
 ROLLETT H. Intracavitary Uterine Tuberculosis 46
 IALBY J L. Results of Abdominal Hysterectomy for Cancer of the Cervix 46
 LEONARD V N. On the Development of Malignant Disease of the Cervical Segment of the Uterus 46
 KIN V A. Uterine Cancer. Anther Hypothesis as to its Cause and Prevention 47
 BOSE L M. The True Prophylaxis of Carcinoma Uteri 47
 KLOTZ R. Treatment of Inoperable Uterine Carcinoma with Radium and Intracavitary Chemotherapy 47
 WEGEL W. Post Clamatic Myosarcoma of the Uterus 47
 HARTMAN I W H. Some Recent Uterine Neoplasms. Simple Papilloma of Corpus Uteri. Primary Cervical Cancer. Diffuse Nodular Fibrosis 48
 OMURA K. H. Myoma of the Uterus and Ovarian Hemorrhage 48
 CLERTIS AND OLLI. Perforating Hydridiform Mole 48
 HANSEN T B. Rise of Temperature Before Menstruation 48
 CANTONI V. The Changes in the Blood During Menstruation 49
 DIRNBAUER F. The Detection of Menstrual Blood by the Glycogen Iodine Reaction 49
 GREIFE H. Periodic Pains in Women 49
 CHAFF W B. Menorrhagia and Metrorrhagia. Treatment and Remarks on Recent Claims by Radiotherapy 50
 BALOWITZ J F. Dysmenorrhea from Imperfect Development of the Uterus or Malformations 50
 STARK J N. Four Cases of Inversion of the Uterus 50
 WESTERMARK. The Question of Prolapse 51
 VON RADWANSKA W. Congenital Total Prolapse of the Uterus in a New Born Infant with Spina Bifida 51
 OLSON J. Results of the Operative Treatment of Genital Prolapse 51
 HARTMAN V. Pessary Treatment 51
 CHILDE C P. Suggestions for the Technique and Performance by New Method of Wertheim's Abdominal Prolapse Prolapse 52
 BRADY T. Results Obtained with the Schauta-Wertheim Operation 52
 Adnexal and Peritoneal Conditions
 VOLZ F. Contribution to the Histology of the Ovary 52
 McALLISTER V J. A Preliminary Investigation Concerning Glycogen Content of the Mucous Membrane of the Fallopian Tube 52
 PATZL AND OLIVIER. Conservative Treatment of Tuberculosis of the Adnexa 53
 NOWIKOFF A. Therapeutic Significance of Castration 53
 MORIARTY D C. Pelvic Cancer 53

External Genitalia

- ROTHE, H Is Bloody Discharge Necessary in Vaginitis 54
- PARRAM, F W A Case of Inaccessible Vaginal Fistula Operated upon by George Gray Ward's Method 54
- WOLFF, M The Treatment of Gonorrheal Vaginitis in Children with A togenous Vaccines 54
- BARNETT, V Vulvovaginitis in Young Children Its Control and Successful Treatment 55
- GLEISCHNER Operated Vulvocarcinoma 55

- MARTIN, V Carcinoma of the Labia Majora 55
- SCHULTZ, T The Pelvic Floor and Its Relation to the Genesis of Genital Prolapse 55
- Miscellaneous
- DAVILL, C Inguinal Hernia of the Female Genitalia 56
- ASCHER, B Passionate Phenomena Hyperkemia and Hemorrhage of the Female Genitalia Following Subcutaneous Injection of Ovarian or Placental Extract 56
- ALBERS-SCHÖNBERG The Treatment with the So-Called Deeply Penetrating X Rays in Gynecology 56

OBSTETRICS

OBSTETRICS

Pregnancy and Its Complications

- ANDREWS, H R Acute Abdominal Pain in Pregnancy 57
- FALEK, T The Treatment of Extra-Uterine Pregnancy 58
- HARTMAN, I P Tubal Pregnancy 58
- WARD, C Case of Prolonged Gestation Double Literus Tubal Abdominal Pregnancy 58
- SMITH, R R Intra Uterine Fracture 58
- PADDOCK, C E Pregnancy Complicated by Appendicitis 59
- HEDIN, F Cyst Kidneys and Pregnancy 59
- CHENHALL, W T Uterine Myomata Complicating Pregnancy 59
- TRETHOWAN, W Uterine Fibroids and Pregnancy 60
- LYNCH, F W Fibroid Tumors Complicating Pregnancy and Labor 60
- VORRIS, C R Ovarian Neoplasms Complicating Pregnancy and Labor 60
- SELLHEIM, H Artificial Interruption of Pregnancy and Sterilization in One Session by the Abdominal Route 60
- ESSE-MÖLLER, E The Treatment of Hemorrhage from the Placental Site Placenta Previa and Accidental Hemorrhage in the Later Months of Pregnancy 61
- STROG OFF, W Remarks Relative to Freund's Article on Eclampsia and Its Treatment on the Basis of 551 Cases 61
- GOOD, F L Cesarean Section Its Indication Report of Twenty Cases 61
- HELVIG, G Cesarean Section in 47 Year-Old Primipara 61
- PATE, R Strength of Peritoneum and Uterine Structures After Cesarean Section Reported by the Patient Herself 61
- SCHEIDT, E Hysterotomy and Preperitoneal Cesarean Section 62
- SCHERER, A The Value of Bacteriological Examination in the Treatment of Abortion 63
- Labor and Its Complications
- LEMP, D C Ovarian Cyst Exposed per Vaginum During Delivery by Midwife 63

- KRÖNER, M Birth in Cases of Occipital and Dorsal Meningocele 63
- Puerperium and Its Complications
- VOYREND, A An Unusual Case of Diffuse Necrosis of the Puerperal Uterus 63
- WATKINS, T J Puerperal Infection A Study of Some of the More Important Features of the Disease with Review of the Cases Treated During the Last Eight Years 64
- GÖTZE, METINT Diseases of the Puerperalis 64
- Miscellaneous
- GOLDSTEIN, M T Hemorrhage in the New Born 64
- WEDEBACH, G Prophylaxis of Bleorrhoea Neonatorum 64
- OFF, M J Mother Milk be Inferior to Her Own Offspring 65
- BACON, C S The Essentials of Sanitarium Treatment of Tuberculous Gravidae and Puerperae and Other Children 65
- VOYGT, F The Influence of Physical and Social Condition of Mothers on the Size of the Progeny 65
- GOLDSTEIN, M F The Relation of the Cervix to Sterility and Pregnancy 65
- ENGELHORN, E The Modification of the Hemoglobin Catalyst During Pregnancy the Weichardt Reaction 66
- LEITZ, J The Serum Diagnosis of Pregnancy 66
- SCHIFF, E I Abderhalden's Dialysis Method of Use in Differential Diagnosis 66
- HELVIG, G AND DAVIS, C H Abderhalden's Test of Pregnancy 66
- LEITCH, STOKES Abderhalden's Serum Reaction 66
- MAYER, A The Therapeutic Use of the Normal Serum of Pregnancy 67
- FITCH, V Experiences with Pituitary Extract in Obstetrics 67
- WARREN, B P Pituitary Extract in Obstetrical Practice 67
- FORREST, L The Hypophysis and Its Act Principles 67
- LEITCH, A B The Value of Abdominal Measurements in Pregnancy 68

GENITO URINARY SURGERY

Kidney and Ureter

- LUCKSCH F Recent Examinations of the Adrenal Capsules 69
- GRADINESCU A V The Influence of the Suprarenal Capsules upon the Circulation of the Blood and the Metabolism 69
- CHILDS S B AND SPITZER W M Röntgenographic Study of the Normal Kidney Its Pelvis and Ureter 69
- BRAASCH W F Clinical Observations on Essential Hematuria 70
- CASPER L The Diagnosis of Bilateral Renal Tuberculosis 70
- KAPFAMMER G Tuberculosis of the Kidney 70
- RUPPRECHT Tuberculosis of the Kidney and Bladder Including Urogenital Tuberculosis 71
- WILDBOLF H The Surgery of Tuberculosis of the Kidney 71
- ZOLLINGER F Traumatic Nephritis 72
- BRATTON H O Hydronephrosis with Report of Cases 72
- FORSMAN Reconstruction of Cystic Kidneys with a Contribution to the Knowledge of the Pathogenesis of Cystic Kidneys 72
- HOLWEG H Further Data on the Treatment of Pyelitis by Lavage of the Renal Pelvis 73
- VILLARD AND PERREN Kidney Transplantation 73
- BRAZIER W R Experimental Studies of the Diagnosis of Kidney Function 74
- YOUNG E L Clinical Functional Tests Methods 74
- GERAGHTY J T AND ROWNTREE L G The Value and Limitations of Functional Renal Tests 74
- SYLVE R Tests for Renal Function Based upon the Selective Excretory Activities of the Kidney 75
- CHRISTIAN H A General Summary of the Significance of Methods of Testing Renal Function 75
- ARCELL Radiographic Diagnosis of Calculus of the Pelvic Ureter 76
- LORD The Ureter After Nephrectomy 76

Bladder Urethra, and Penis

- KIDD F Purpura of the Bladder 77
- LOWER W E The Treatment of Recurrent Malignant Tumors of the Urinary Bladder with the High Frequency Radio Current with a Report of a Case 77
- HÉRESCO P Total Cystectomy for Multiple or Infiltrated Neoplasms of the Bladder 77
- KLEUDER I S An Elimination Through the Mucosa of the Urinary Bladder 78
- LEMOINE G New Operation for Making a Bladder after Total Cystectomy for Cancer 78
- VANDER VEER J V Some Aspects in Relation to Chronic Gonorrhoea from the Standpoint of Surgery and Eugenics 78

Genital Organs

- WOLBAST A L A Case of Spindle-Cell Sarcoma of the Testis with Unusual Features 79
- PICKER R The Anatomical Configuration of the Human Vesicula Seminalis in Relation to the Clinical Features of Spermatocystitis 79
- YOUNG H H The Role of the Prostate and Seminal Vesicles in General Toxemia 80
- SASAKI J Experimental Atrophy of the Prostate from X Ray Treatment of the Testicles 80
- MCCARTHY J F Preliminary Report on Cystoscopic Operative Treatment of Early Intravesical Prostatic Infiltrations and Other Obstructive Conditions in the Region of the Vesical Sphincter 81

Miscellaneous

- RUBASCION S Röntgenology in Urologic Surgery 81
- POUSSON AND DESVOS French Encyclopedia of Urology 81
- STANKEE F R The Organs of Internal Secretion in Relation to Male Organs of Generation 81

SURGERY OF THE EYE AND EAR

Eye

- KNAFF A Report of Case of Traumatic Equatorial Rupture of the Sclera 83
- ZADE M Contribution on Metastatic Ophthalmia 83
- ZENTHAYER W Hydrophthalmos with a Histological Report of Two Cases One of Which Presented a Congenital Coloboma 83
- HARROWER D Two Cases of Chronic Chorioiditis Simplex Treated by Indolol 83
- LIGON New Operation for Chronic Glaucoma 84
- SELENIAKOV A The Diagnosis of Sarcoma of the Choroid Two Cases of Sarcoma with Decreased Intraocular Pressure and One Case of Sarcoma of the External Sclerification of the Eyeball 84
- CRÉPEL HÖRNER C A Ophthalmia Neonatorum Etiology Pathology Therapy and Prophylaxis 84

Ear

- BRIERLEY H D Ophthalmia Artefacta 84
- SHUMBAUGH G I Chronic Obstructive Middle Ear Deafness 85
- REIK H O The Value of Nasopharyngeal Surgery in the Treatment of Chronic Exudative Otitis Media 85
- HARRIS T A Brief Consideration of Certain Recent Views Regarding Otosclerosis 85
- MORRIS M A Modification of the Technique of Mastoid Dressing 86
- PAGE J R The Report of a Case of Paracoustic Vertigo and Vestibular Stagnation Cured by Operation on the Labyrinth 86
- DEVINE E B The Technique of the Labyrinth 86

CONSULTING EDITORIAL STAFF—Continued

SURGERY OF THE EAR

AMERICA Ewing W Day Max A. Goldstein J F McKernon Norval H Pierce S. MacCuen Smith.
CANADA H. S. Burdett. ENGLAND A. H. Cheate SCOTLAND A. Logan Turner IRELAND
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OF THE ORIGINAL CONTRIBUTIONS WHICH ARE ABSTRACTED IN THIS NUMBER

- | | | | |
|-----------------------|--------------------|---------------------|----------------------|
| Agaard V 4 | Fischer F 28 | Law A V 35 | Schitz, T 55 |
| Alberschönberg 56 | Fitz R 75 | Lebedev A 22 | Schneider, E 62 |
| A draws II R 57 | Flenschauer 55 | Lemmoine G 78 | Schnkowsky 84 |
| Arrel ~6 | Forbes, A M 32 | Leonard V N 46 | Sellheim H 60 |
| Asch er B 56 | Forssma J 72 | Lerich R 37 | Seyer, J W 14 |
| Aurbach J 87 | Fraser J F 13 | Lichten tein 66 | Shamlaugh C L 85 |
| Bacon C S 65 | Fre k 21 | Loni 76 | Shattuck C C 4 |
| Bald J F 50 | Freema L 30 | Lower W F 77 | Sheedy B D 88 |
| Bald J R 6 | Frederic A, J C 37 | Loocksch F 69 | Sherrin J 25 |
| Barnes, R H 21 | Fuchs, A 67 | Lynch F W 60 | Sick C 13 |
| Barnett N 55 | Gadd P 4 | Mackee G M 44 | Skinner L H 28 |
| Berg P., 33 | Geraghty J T 74 | Mack na G W 87 | Sluder C 84 |
| Billing J 26 | Goetre O 58 | Magon 27 | Smith R R 38 |
| Bismuth B 8 | Goldberger M I 65 | Mell A 55 | Spalding A H 18 |
| Bismuth M 55 | Goulding M T 64 | Merrill H 6 | Spencer W M 69 |
| Boothby W M 1 | Goltschewsky M 8 | Meyer A 67 | Stark J N 30 |
| Boss J M 47 | Good F L 61 | McAllister J J 52 | Stark J N 30 |
| Bravach W F 0 | Gray H 11 | McCarthy J F 81 | Steadman I J 90 |
| Brax W R 4 | Crabtree A V 69 | McKenzie D 89 | Stewart A 3 |
| Brax H 1 | Craig H 40 | Meyer W 1 | Stewart J 32 |
| Bratton H O 72 | Craig O 64 | Mignon M 86 | Stover G H 17 |
| Broca A 10 | Croves F W H 3 | Mills C W 0 | Stroganoff W 61 |
| Brown H D 84 | Cramer R 8 | Milpa pa G W P 1 | Sweeney M T 34 |
| Buckley, J 23 | Croft C 4 | Mitchell J F 3 | Teak 2 |
| Cabot C 42 | Croft J N 6 | Morata D C 53 | Teij H 27 |
| Ca ton J 49 | Croft M W W 37 | Murphy J B 29 20 36 | Thomas C F 10 |
| Carell A 37 | Croft I B 48 | Nasa d W M 41 | Therhown W 60 |
| Case J T 1 | Croft T 85 | Nasa d W M 41 | Tschernachowski F 40 |
| Caspari 4 | Croft D 83 | Nasa d W M 41 | Vanderker J N 5 |
| Casper I 10 | Croft M 5 | Nasa d W M 41 | Vest J 66 |
| Chase, W B 50 | Croft P 58 | Nasa d W M 41 | Vhoeven J 1 |
| Cha i net d Cady M 17 | Croft U J A 10 | Nasa d W M 41 | Vlard 71 |
| Chen H W T 57 | Croft M W 20 | Nasa d W M 41 | Vlad L 5 |
| Chen C P 5 | Croft F W N 45 | Nasa d W M 41 | Von Gutfeld F 1 |
| Child S B 60 | Croft I C W 7 | Nasa d W M 41 | Von Radwan W 51 |
| Christie H A 75 | Croft I S 5 | Nasa d W M 41 | Von Reding A 63 |
| Cocks L H 80 | Croft S 66 | Nasa d W M 41 | Von Tsemmer F H 31 |
| Cole L G 1 | Croft G 62 | Nasa d W M 41 | Voorhes I W 87 |
| Croft Horder C A 84 | Croft H 59 | Nasa d W M 41 | Vorlet, H 4 |
| Croft W R 6 | Croft Y 3 35 | Nasa d W M 41 | Vorlychko, C A 2 |
| Croft 44 | Croft H 1 | Nasa d W M 41 | Ward C 53 |
| Dan I C 56 | Croft I C | Nasa d W M 41 | Ward T J 64 |
| Davis T F 14 | Croft I 77 | Nasa d W M 41 | Ward B I 6 |
| Davis C H 66 | Croft A 31 | Nasa d W M 41 | Ward F 3 |
| Davis J 56 | Croft H 73 | Nasa d W M 41 | Ward W 47 |
| Davis H 83 | Croft S H 5 | Nasa d W M 41 | Wardman M G 64 |
| Dench I B 86 | Croft G O 1 | Nasa d W M 41 | Weissaupt E 13 |
| Denk W., | Croft L M 20 | Nasa d W M 41 | Werns, K 5 |
| Dennis I L., 69 | Croft G 7 | Nasa d W M 41 | Westmark 5 |
| Dennis, E 82 | Croft D C 63 | Nasa d W M 41 | Whitbeck B H 13 |
| Despard D L 13 | Croft F 77 | Nasa d W M 41 | Whitmore W D 40 |
| Dewar L A 3 | Croft R 44 | Nasa d W M 41 | Whitlock, H 7 |
| Donaldson H J 2 | Croft A F A 47 | Nasa d W M 41 | Whitlock D D 19 |
| Dremsa H 4 | Croft H M 9 | Nasa d W M 41 | Whitlock D 6 |
| Dufourt J 37 | Croft I S 38 | Nasa d W M 41 | Whitlock M L 79 |
| Dutton T 7 | Croft K 47 | Nasa d W M 41 | Wolff M 54 |
| Dyrenfurth I 49 | Croft R L 8 | Nasa d W M 41 | Wred L., 0 |
| Dyrenfurth R C 7 | Croft A 83 | Nasa d W M 41 | Young F L 74 |
| Dyrenfurth C A 34 | Croft H 1 | Nasa d W M 41 | Young H H 80 |
| Ely L W 25 | Croft M 40 | Nasa d W M 41 | Zad M 83 |
| Engelhorn L 66 | Croft N 24 | Nasa d W M 41 | Zentmayer, H 81 |
| Erdman J F 23 | Croft M 9 | Nasa d W M 41 | Zobel A J 22 |
| Essen-Volk F 61 | Croft M 63 | Nasa d W M 41 | Zollger J 7 |
| Falk L 58 | Croft M 84 | Nasa d W M 41 | |
| Fure J L 46 | Croft J P 4 | Nasa d W M 41 | |

INTERNATIONAL ABSTRACT OF SURGERY

JANUARY 1924

ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

ASEPTIC AND ANTISEPTIC SURGERY

Jüngling O. No Danger of Iodine Intoxication from Skin Disinfection with Tincture of Iodine (Bedingt die Methode der Hautdesinfektion mit Jodtinktur eine Gefahr der Jodintoxikation für den operierenden Arzt?) *München med. Wochenschr.* 913 ix 1766

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

In spite of the comparative heaviness of iodine the iodine content of the air of the operating room is greatest over the field of operation. During five hours at the operating table the surgeon breathes in about 35 mg of iodine. Examination of the blood however showed that there was no increase in the lymphocytes or other change in the blood picture and therefore the conclusion is that iodine disinfection is without danger. **Pietzold**

Koehler H. Disinfection of the Field of Operation with Thymol Alcohol (Desinfektion des Operationsfeldes mit Thymolalkohol.) *Deuts. heil. arch. Ztschr.* Berl. 19 3 xlv 69

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Disinfection with thymol alcohol as suggested by King has the following advantages over that with tincture of iodine: 1 The skin irritation is less. 2 In goiter and Basedow disease the possibility of iodine absorption is avoided. 3 There is no discoloration. 4 The clothing is not stained. 5 It is cheaper. 6 The solution as well as the crystal keep indefinitely. King's method is warmly commended. **Collie**

ANÆSTHETICS

Herb, I. C. Administration of Alkaloids before Anæsthesia. *J. Am. Med. Ass.* 9 3 lx 836

By Surg. Clin. & Obst.

Herb decries the routine use of fixed doses of morphine, scopolamine or atropine preliminary to

general anæsthesia as an evidence of unsound and unscientific practice. On account of the danger involved they should be employed only when an experienced anæsthetist is in charge of the case. But a good etherizer can without such premedication usually induce an anæsthesia gently and carry it through smoothly with little after-sickness. The advantages which have been claimed for the method are not enough to offset the risk involved in the depressant effect upon respiration and on renal function, the toxic effect on the central nervous system, the strong diminution of the secretions and the general heightening of the toxic effect of the anæsthetic itself.

The only indication for their use in the author's opinion is in local analgesia. The contra-indications are as follows: In patients in whom the respiratory center is depressed or likely to become depressed through operative procedures obstructive dyspnoea due to growth within or without the trachea causing pressure or exophthalmic goiter in operations about the mouth or throat in the case of debilitated or cachectic persons or those suffering with continued sepsis in patients preventing any degree of stupor or those susceptible to morphine in children and elderly people and when untrained inexperienced anæsthetists are administering the anæsthetic. **Albert I. Hrenzfien**

Boothby W. W. Ether Percentages. *J. Am. Med. Ass.* 9 3 lx 83

By Surg. Clin. & Obst.

Boothby confirms the determinations of Connell with the anæsthetometer that without reference to age or physical condition the inspired air must contain 30 per cent of ether vapor by weight to saturate the blood sufficiently for the induction of full surgical anæsthesia and that after relaxation a 15 per cent vapor is strong enough to prevent diffusion outward from the tissues and to maintain the

requisite ether content of the blood. To allow of the general application of these findings he proceeds to determine the percentages obtained experimentally with ordinary methods of etherization.

For vapor methods he uses air a meter to measure off the volume of air per minute a Wolffe bottle containing ether over which the air is passed to a gas balance adjusted to give the ether percentage. He finds that the faster the flow of air the lower the percentage of ether which explains the difficulty and frequent impossibility of inducing anaesthesia by a vapor apparatus in a person of great lung capacity with respiratory centers aroused by stimulants or nervous excitement. A much higher percentage of ether will be carried over if the ether bottle is immersed in a bath containing warm water (not higher than 95° F. the boiling point of ether) without affecting the temperature of the anaesthetic vapor delivered to the patient. The use of chloroform to reinforce the ether in a vapor apparatus is inadvisable because a turn of the valve may send in a concentrated dose and cause death. If the ether is warmed it is unnecessary to use chloroform as a vapor of any desired strength may be obtained.

For the drop method with the open mask he used an artificial trachea and found that with an in-lucon (30 per cent ether vapor) the temperature of the inspired mixture was 33.6° F. after relaxation (20 per cent vapor) it rose to 73.4° F. and later (15 per cent vapor) still higher. In alcohol as ether apparently exerts greater excitatory power on the respiratory center than in non-alcohol cases. Naturally a much greater quantity of ether is required to bring the larger volume up to the 30 per cent requisite for induction of anaesthesia. In expert anaesthetists will induce an anaesthesia rapidly and yet smoothly without causing allocation and accordingly deep breathing. The percentage may be increased by holding the hands in turn on the side of the mask so as to get greater vaporization from their warmth.

Boothby shows by calculation that loss of heat by the body due to warming the anaesthetic vapor within the air passages is negligible in comparison with the loss of heat from the body surfaces during an operation. Warming the anaesthetic vapor before inspiration is accordingly a futile procedure and it is far more important to keep the body dry and warm.

ALBERT LEEK FREE

Peck, C. H. Intratracheal Insufflation in Anaesthesia (Meltzer Auer). Report of a Series of 41 Cases. *U. S. A. J. Surg.* 1913, 11, 330. B) Surg. (Ynec. & Ob.)

This paper deals with the author's personal experience with intratracheal insufflation anaesthesia in a series of 41 cases which included a great variety of conditions. His conclusions are:

1. Intratracheal insufflation has many advantages over other methods in certain classes of cases.

2. The difficulty of intubating and the necessity of first inducing full surgical anaesthesia makes it unsuitable for many short simple operations.

3. If properly done it is absolutely safe and free from deleterious after-effects.

4. It is the ideal method for intrathoracic operations.

5. It greatly lessens operative shock (a) through absolute relief of strain on the respiratory apparatus and circulatory and nervous systems and (b) through the even advantageous degree of the anaesthesia maintained. This is especially evident in aged and debilitated patients.

6. It prevents a purtion of mucus saliva or blood into the trachea and makes preliminary tracheotomy unnecessary in operations on the tongue, jaws, mouth, nose and pharynx. It thus prevents a purtion pneumonia.

7. It is especially useful in operations about the head and neck and in awkward operations in general.

8. The degree of anaesthesia is under perfect control. In the use of pure air for the last few moments of the operation hastens the recovery of consciousness and minimizes the after-effects.

WILLIAM H. NOBLE

Donaldson, H. J.: A Year's Experience with Spinal Anaesthesia. *Am. J. Surg.* 1913, 25, 35. B) Surg. (Ynec. & Ob.)

A report of 234 cases of spinal anaesthesia (stovaine) in the abdominal service of Williamport Hospital covers 335 operations on pelvic organs, gall bladder and ducts, hernia, varicocele, castration, rectal operations, placentectomy, intestinal operation, caesarean section and amputation of thigh in which the ages ranged from nine to eighty-five years. It showed that in 210 of the cases the anaesthesia was complete while in 15 either a second injection or a little ether was required, there being no objection whatever to ether with stovaine. In the incomplete cases explanations were sought the following being the most plausible: foot of table being too elevated, the suggestiveness of odor from cauterizing manipulations of adhesions to gall bladder and diaphragm, rough handling of fixed uterus, etc. Thirty-four suffered from nausea and vomiting. This too, almost always occurred a few minutes after administration, but it was of little consequence and literally was omitted somewhat by giving the patient a light breakfast shortly before operation. The patients were allowed to drink fluids during operation but no talking was allowed. Nine cases are specifically mentioned as showing advantages in the method of these two were of profound shock, he had a exophthalmic goiter and the other kidney or heart diseases. There were three deaths, none after completion of operation before leaving the room but it was not thought to be due to stovaine as the condition had been bad (caesarean section) one (splenectomy) after three days and one (thigh amputation for septic-

nia after two weeks. The author is positive that spinal anesthesia is a big asset to the surgeon even safer than ether. Blood pressure falls (an advantage to hemostasis). He thinks time of operation is shortened by it and fails to understand the prejudice against it. F W PRINCE

Henderson Y. A Comparison of the Immediate and After Effects of Spinal and Local Anesthesia with Those of Inhalational Anesthesia in Respect to Shock and Psychic Shock. *T Int. at Cong Med Lond*, 193 Aug. By Surg. Gynec & Obst.

Shock may be caused by mental states e.g. fear or anxiety in much the same manner as it is caused by physical pain. In using local and spinal anesthesia it is important that the mind also should be protected unless the patient is of phlegmatic character or is ignorant of what is happening. In general anesthesia not only anxiety and the consciousness of pain are to be avoided but also overstimulation of afferent nerves influencing the centers controlling vegetative functions particularly respiration. Quiet breathing is a supreme desideratum. To attain it local anesthesia should if necessary be used to reinforce general anesthesia and vice versa. In this practical point the writer agrees with Crile although he finds that much of the theorizing with which Crile has surrounded his teachings lacks any demonstrated basis of fact.

A form of shock may be induced by unskillful methods of anesthetization particularly with ether. This does not consist as Crile holds in fatigue of nerve centers. It is due in part to the apnoea which results from excessive respiration and renders the patient prone to respiratory failure and in part to excessive adrenalin secretion predisposing the patient to cardiac fibrillation under chloroform and also to other disturbances of general functions.

Experiments by the writer have shown that unskillful anesthetization particularly frequent variations in depth of anesthesia may render even a perfectly healthy subject liable to die suddenly under a dosage which would otherwise be borne with impunity. Rebreathing methods in nitrous oxide oxygen anesthesia have demonstrated the advantage of preventing apnoea and even of inducing a slight hypercapnia. The oxygen used in the operating room should contain five to eight per cent of carbon dioxide as a stimulant to respiration.

Dwawain L. A. Pantopon-Scopolamine Anesthesia and Its Combination with Local Anesthesia (Zur Frage der Pa. top. Scopolamin + those od deren Komb. nation mit ritlicher Anthesen). *Chir. u. g. 93* 3333 34. B. Zentralbl. f. d. ges. Chir. u. Grenzgeb.

After an exhaustive study of the literature of the subject the author reports 101 of his own cases of anesthesia with pantopon scopolamine. They are divided into 4 groups (a) pantopon scopolamine with local anesthesia — 79 cases 36 of them being

appendectomies (b) pure pantopon-scopolamine anesthesia — 4 cases (c) pantopon scopolamine anesthesia with spinal anesthesia — 9 cases, (d) pantopon-scopolamine in combination with chloroform and ether — 13 cases.

Doses of 0.002-0.03 gm pantopon and 0.002-0.003 scopolamine are enough for women and delicate men for robust men 0.04 pantopon and 0.004 scopolamine. These doses must be exceeded only in exceptional cases. Injections of pantopon scopolamine are a valuable aid in local anesthesia and extend its field greatly. It is dangerous to induce complete anesthesia with pantopon-scopolamine alone on account of its effect on the heart. SCHACK

Mitchell J. F. Local Anesthesia. *J. Am. M. Ass.* 1933 131 842. By Surg. Gynec & Obst.

The author presents a general review of the developments in local anesthesia since the publication of his previous paper on this subject in 1907. The one greatest factor has been the introduction of novocaine as a substitute for cocaine. Novocaine is now recognized as the best and safest substance for producing local anesthesia as it is about seven times less toxic than cocaine and its solutions are unharmed by boiling. Urea and quinine hydrochlorid is another valuable local anesthetic with its practically negative toxicity its control of post-operative bleeding and the long duration of the anesthesia that it produces.

A description is given of Bier's method of injecting novocaine into the vein of a limb between two tourniquets applied after the limb has been rendered bloodless by the application of an Esmarch bandage. Very good results from the use of this method are reported from Bier's clinic, but Mitchell believes that the discomfort of the tourniquet is often a considerable disadvantage.

The anesthetization of distal parts by perineural and endoneural injection which is rendered easy by a knowledge of sensory nerve distribution is next taken up. Many authors are quoted who have used this method with success in such operations as amputations, perineal prostatectomies, vaginal hysterectomies, cesarean sections, appendectomies, nephrectomies, thoracoplasties, laminectomies, and operations on the gall bladder and stomach. The head has been a special field of investigation and even the injection of the gasserian ganglion has been detailed with mathematical accuracy. Resections of the jaw and excisions of the tongue have been performed by this method successfully and painlessly.

Novocaine has greatly improved the local anesthesia of the neck and the use of it is surprisingly simple to one who has been accustomed to employing cocaine as sparingly as possible.

The now well known work of Crile on shock and anesthesia and his principle of anaesthesia association are considered of great value. His method of eliminating the traumatic factor should be used not only for handicapped patients, but also in daily routine.

work It is of special value in the surgery of the aged In epithelioma of the lip Mitchell first infiltrates the neck thoroughly with 0.5 per cent novocaine before he excises the growth By the time this is finished anesthesia in the neck is so well established that the dissection can be done at will

In the treatment of fractures the author has found the combined method most useful In hernia cases he does not consider old age a contra indication and he performs all operations for hernia with local anesthesia except in the cases of very young children

In closing the author pleads for more experience and skill in the various methods as without these local anesthesia cannot be fairly judged

ALFRED H. NORMAN

Lastotschkin J P: Hedonal Anesthesia (Über Hedonalnarkose) *Chirurgia* 1913 xxxiv 1
By Zentralbl f d ges Chir 1 Grenzgeb

Intravenous anesthesia with hedonal, as proposed by Fedoroff has been used in over 1,000 cases Lastotschkin reports his 75 successful cases In 70 cases the veins were well defined in 5, they were not In 52 cases the patients were absolutely quiet during narcosis in the others they moved slightly but not enough to disturb the operation In 3 cases narcosis was not complete ether had to be given in one case and a few drops of chloroform in the other The cases were divided into three groups according to the amount of hedonal used In 28 cases 1,000 cc or less was used in 37 cases 1,000-1,500 cc and in 10 cases 1,500-1,800 cc Vomiting occurred in only 4 cases Twice there was bronchitis 10 times pneumonia

No deaths resulted from the anesthesia but 12 of the patients died from various causes and after varying periods of time Three died immediately after the operation The 75 cases are arranged by Lastotschkin in tabular form giving details of the

course of the narcosis and he is very favorably impressed from his experience While the number of helpers required is at times inconvenient this point should not be a decisive factor against the method His conclusions are Hedonal anesthesia has the same advantages as the ordinary inhalation anesthesia with ether or chloroform but it also has some special points in its favor It permits of accurate dosage and avoids the possibility of sudden heart failure, because it contains the stimulating amido group Moreover there is a greater difference between the anesthetic and toxic doses but it should be used only when there are special indications for it It is particularly valuable in peritonitis septic processes in long operations, and in heart affections

SCHAEK

Gadd P Regional Anesthesia in the Lower Jaw (Considérations sur l'anesthésie régionale dans la mâchoire inférieure) *Odonologie* 913 lxv 447
By Zentralbl f d ges Chir 1 Grenzgeb

Often as in ankylosis for example it is impossible to use the method of producing anesthesia of the mandibular nerve by injections from the mouth. For this reason Gadd experimented with injections from the outside He inserts the needle in the midline between the crossing point of the arteria maxillaris and the lower jaw i.e. the anterior border of the masseter and the submaxillary gland and pushes it a little backwards holding the head of the patient inclined to the other side and keeping close to the bone The distance from the mandibular foramen is 3 cm At this point and in the area surrounding it a per cent novocaine solution is injected for the treatment of the incisors, one more injection in the neighborhood of the mental foramen is necessary Of 94 anesthetics 97 of which were for extractions 89 were satisfactory

SCHEERVOER

SURGERY OF THE HEAD AND NECK

HEAD

Vuillet H Syphilis of the Salivary Glands (Les syphilis des glandes salivaires) *Thèse de doct*
Par 93 By Journal de Chirurgie

Vuillet says a syphiloma of the parotid gland can simulate a tumor and the diagnosis can be made only with the aid of the Wassermann or a microscopic examination A serious and mutilating operation might be performed for such a tumor which would clear up rapidly under appropriate treatment He reports a case of Letulles and one of Morestin as presented before the Société de Chirurgie last year and makes an anatomical and clinical study of syphilis of the salivary glands

The salivary glands are most often affected in individuals between 20 and 40 years of age 22 cases under 24 years of age being reported in the statistics

of Gerber The parotid gland is most often affected, being involved in 30 cases the submaxillary in 7 the sublingual in 6 and the gland of Blandin-Vahn in 1 case

Vuillet points out that in hereditary syphilis there is engorgement of the parotids contemporaneous with chancre In these early stages there may be subacute parotitis which may be accompanied by lesions in the submaxillary and sublingual and possible suppuration

Tertiary syphilis may cause a chronic diffuse bilateral parotitis a simultaneous involvement of the salivary and lachrymal syndromes of Mikulicz or a syphiloma of the gland the only one well considered

The syphiloma appears from three to eleven years after the beginning of the disease at first as small intraglandular nodules which may become as large as an olive or an apple and may resemble a mixed

tumor There is induration no functional trouble and generally no facial paralysis. It either heal spontaneously or suppurates giving rise to a salivary fistula. Microscopically there is a chronic luetic parotitis characterized by the formation of diffuse gummas combined with a specific interstitial insular parotitis. The prognosis is usually good. Mercury iodide or salvarsan almost always cures luetic infection of these glands and may even be used as a therapeutic test in diagnosing the condition when there is some question as to whether the inflammation is specific tuberculous actinomycotic or sporotrichitic. F M CADENAT

Murphy J B Bony Ankylosis of the Jaw with Interposition of Flaps from Temporal Fascia
S 1 Clin J B M Phy 93 N 4
B3 S rg Gyn c & Ob t

The patient aged 24 went to the hospital on account of limited motion in jaw. The condition dated back eighteen years when he was lured by a horse on left side of jaw just posterior to the mental process. Sustained a compound fracture at this point. The wound suppurated and discharged pus for about two months, when a sequestrum or a tooth came out. The wound then healed. Immediately after accident patient also had a discharge from the right ear for some time. He never had any pain. Condition has not grown any worse in the past twelve years. Two upper teeth right canine and bicuspid were removed and he ate only soft foods.

Ankylosis of the jaw may be divided into: 1. Intra-articular conditions fibrous ankylosis 2. bony ankylosis 3. periauticular conditions 4. muscular or cicatricial fixation. The man had a metastatic infection in the right mandibular articulation and this extended into the ear. He had no extension of the infection throughout the entire length of the mandibular process as in mouth infections or occasionally in typhoid infections which may involve the whole jaw from the symphysis up into the mandibular articulation so the head of the bone becomes necrotic and is expelled. In those cases the whole jaw can be taken out as a sequestrum. After the injury on the left side of his jaw he had an infection on the right side extending from the mandibular articulation into the temporal bone which produced the ankylosis.

These infections may be divided into three classes: 1. Those that pass through the internal ear and discharge behind the ear into the mastoid 2. those that go through the posterior part of the petrous bone 3. those that burrow forward and extend into the articulation. The other conditions that produce ankylosis are the infection that occur about the mouth sloughing in typhoid and scarlet fever, noma etc.

The articulation was exposed through a 2 inch incision beginning a half inch in front of and on a line with the external meatus and extending up into the hair. The joint was represented by a mass of

fibrous tissue and an elevation which felt like the head of the mandible. There was no motion in the joint and by taking the periosteum off the head it was found there was bony ankylosis running clear forward across to the coronoid process. The demarcation between the mandible and zygoma was distinguishable. After freeing the ankylosis fairly well it was divided with a straight narrow chisel and the head of the mandible removed. This left a space of at least one half inch. The real point of fixation was at the coronoid process which was united to the under surface of the zygoma so it held the latter firmly to the mandible. Next a flap of the aponeurosis and fat of the temporal fascia was raised about two inches in diameter base down and dropped down under the zygoma and into the glenoid fossa so it was interposed between the bones making up the joint and preventing recurrence. The tip was fastened in with a few tacking sutures and the skin closed with horsehair and dusted with subiodide of bismuth and sealed with collodion gauze. The jaw moved quite freely but there was some fibrous fixation of the opposite side to be overcome by stretching later.

The day after the operation the patient had free motion in the jaw. This increased rapidly. When the skin sutures were removed on the tenth day he was able to open his mouth one inch. A week later the fibrous fixation of the left joint was overcome by prying open the mouth under anesthesia. The patient left the hospital on the twenty second day. He could open his mouth an inch and a half. The result was ideal. There was no perceptible scar on the face and no depression where the temporal flap had been deflected downward.

Haynes I S Cisterna Sinus Drainage for Hydrocephalus
A ch P dent 913 xxx 670
B3 S rg Gynec & Obst

The report is given of a case of hydrocephalus treated successfully by draining through the cisterna magna according to methods previously designed by Haynes. The modified technique advised is as follows:

An incision was made one fourth of an inch at the left of the midline from a point about three fourths of an inch above the margin of the foramen magnum to the same distance above the incision and the skin with the periosteum reflected to expose the occipital bone. A three eighths of an inch button of bone was removed by De Vibris trephine midway between the margin of the foramen magnum and the incision and from this a gutter half an inch wide was cut away to the last point exposing the dura over the cisterna magna and in the upper part of the area the lateral (left) sinus.

A suture of vaseline-sterilized silk was passed through the dura and arachnoid so as to enclose a space about one fourth of an inch square within which space the short arm of the cannula was to be passed. An incision 1 mm in length was then made into the lateral sinus. Blood flowed in a

steadily, small stream rising about an inch in height into the small opening the long arm of the cannula which had been previously sterilized in xceline was inserted. The fit between the cannula and incision was so snug that no leakage of blood took place but there was a flow of blood from the free end of the tube. An incision a little less than one inch distant from that just made in the sinus was then made through the dura and arachnoid into the cisterna magna in the center of the area encircled by the silk suture. The cerebrospinal fluid spouted out at once to a higher level than the blood from the sinus. After a single quick pumping the short arm of the cannula was inserted into the incision and the wound sponged. There was no leakage of either blood or fluid. The retention suture was then tied across the tube.

A few hours after the operation the temperature rose to 104 then it dropped. Two months after the operation the child was in excellent condition.

Haynes suggests that in the future the skin incision instead of being made in the median line be a semilunar incision made at one side of the median line and with its concavity towards the middle.

Cubbins, W. R. A Compilation of the Method Used and the Results Obtained by Fellows of the Chicago Surgical Society in Brain Surgery. Surg. G. & O. 1913. 357.

By Surg. Gynec. & Obst.

The answers to the question as to which is the best method for hæmorrhage indicated that the majority of the surgeons prefer a tourniquet but that others are just as strongly in favor of elastic artery resections.

Most frequently the skull was opened with a trephine followed with a De Villiers or wire saw. The result from the removal of tumors were very unsatisfactory. Only superficial cysts gave satisfactory clinical results.

Brain abscesses were located with the grooved director or a blunt trocar with multiple openings. In draining an abscess the consensus of opinion was that it best has a large opening and continue the drainage for long time using silk worm gut, silk or glass tubes. With the exception of those around the mastoid region these abscesses recurred very often.

Decompression operations were recommended in cases of tuberculum following basal skull fracture, a benign but inaccessibly tumor. It afforded relief also in the malignant cases.

Decompression and drainage in acute leptomeningitis as of no value the few times it was employed.

Jacksonian epilepsy due to cystic tumor was relieved by operation upon before the condition had continued very long. Paralysis of the opposite extremity was noted following these operations but it usually cleared up.

The operation for diaphragmatic epilepsy were uniformly unfavorable.

Barány, R.: Clinical Development of My Symptom Complex (Die klinische Entwicklung meines Symptomenkomplexes). Hef. med. II. 2. 1913. 93.

By Zentralbl. f. d. ges. Ch. 1. Greengard

Inflammatory adhesions can so close up the cisterna pontis at the cerebello pontine angle that a serious cystic meningitis occurs. The neighboring nerve trunks are injured by pressure from the particularly the auditory and perhaps also the reverberations of the auditory which are found in the labyrinth communicating with the cisterna as well as the neighboring parts of the cerebral cortex. The clinical picture generally begins suddenly with buzzing in the ears, dizziness, disturbance of balance and vomiting. Difficulty in hearing and headache in the occipital region of the affected side follow. There are two peculiar characteristics. When an attempt is made to touch an object with the hand of the affected side it passes by on the outer side of it and when nystagmus is elicited toward the diseased side there is no movement of the eye inward. A series of clinical observations shows how Barány gradually came to display this symptom complex found its cause and how he localized the centers for the movements in the cortex of the cerebellum. Sometimes spontaneous rupture of the cyst brings about a cure otherwise a small puncture must be done or the cyst opened surgically.

FAETZOLD

Marx, H.: Surgery of Tumors of the Cerebello-Pontine Angle (7. Chirurgie der Kleinhirnbasis- und Hirnstamm-tumoren). Mit 4 d. G. m. geb. d. Med. Ch. 1913. 11, 17.

By Zentralbl. f. d. ges. Ch. 1. Greengard

Marx describes in detail a case of tumor of the cerebello pontine angle that had been developing for fifteen months in a 48 year old man. Symptoms: unsteadiness of gait, decrease in muscular auditor acuity, nystagmus, a tendency to fall toward the left but turned choked disc, slight paresis of the right abductor. Klemm operated through the labyrinth by the House method but without the length of the operation and the cerebellar damage he could only curette out some small fragments of the tumor. For a while the patient improved markedly but after a few days the cyst prepared for the operation was punctured. After thirteen months he grew much worse, present symptoms: atrophy of the right corneal reflex, paralysis of the right half of the right half of the ataxia of the right arm. Second operation was performed by Borchardt in which the tumor which the size of a small apple was moved in four pieces. He seemed to be getting along well but died suddenly on the eighth day from paralysis of respiration. The autopsy showed that the tumor was a neurosarcoma that was smooth and had been removed in its entirety and that the right half of the cerebellum was completely and partially destroyed.

Fühner H Pharmacological Investigations in
 Regard to the Active Constituents of the Hy-
 pophysis (Pharmakologische Untersuchungen über
 die wirksamen Bestandteile der Hypophyse) *Ztschr*
f d g r p Med 1913 1: 197
 By Zentralbl f d ges C k u Geburtsh u d Grenzgel

Hypophysis represents the collective influence of the hypophysis upon the blood pressure the respiration and the uterus Hypophysis acts differently upon the respiration and blood pressure of rabbits and cats Tests made upon the isolated wombs of several animals as well as experiments on the uterus *in situ* according to a new method advised by the author always give the same results

Hypophysis is composed of four different substances which may be obtained in a crystalline state Clinically the first active principle obtained is not very active on the respiration and uterus but its influence on the blood pressure is typical The second constituent has a marked action on blood pressure the respiration and the uterus The third is qualitatively and quantitatively much more active than the second The fourth substance has the same marked action on the uterus as the third but influences the respiration and blood pressure only slightly The constituent of the hypophysis that acts upon the uterus therefore is not localized in any one part of the gland Besides the four products from which hypophysis is formed four other substances have been isolated from dealbuminized extract of the hypophysis One of these is an acid The substance however does not possess any action worth mentioning

Lugger A Some Features of Röntgenographic Changes in Pituitary Diseases *J Am M*
t 1913 11: 752 By Jrgl nes & Wnt

The author confines himself to only two aspects of the radiographic studies of pituitary disease First the general change in the skeletal element and secondly the changes in the skull and in the sella turcica which he considers of great importance in relation to the differential diagnosis In addition to the known changes in the skeletal configuration such as mandibular prognathism enlargement of extremities and increase in use of sinuses of the skull he mentions the change in the cervical spine which has been noticed by French authors

There are normal variations in the size of the hypophysis The normal measurement is 15 mm antero-posterior and 6 mm vertical diameter the normal limit In brachycephalic person the sella is higher and deeper while in the brachycephalic the sella is longer and flatter

It has been noted that the size of the sella corresponds to the length of the posterior part of the sella the skull and in direct proportion to the thickness of the anterior wall to the ethmoidal process In the sella appears a relation between the thickness of the sella and the phenyletic cell of the sella from which the secretions with a mass of the sella come

Changes in other of the ductless glands cause at times an enlargement of the sella This has been noted when the sexual glands have been removed or their functions disturbed and in certain cases of thyroid disease

As the gland itself is rarely seen and this only when calcification has taken place conclusions are drawn only from the change in the bony parts These changes consist of an enlargement of the sella of a thinning of the floor and a thinning and absorption of the dorsum and of the posterior clinoid processes

The order of appearance of these changes depends on whether the pituitary gland itself is involved—the so-called intrasellar tumor—or whether there is some pathologic condition in the immediate neighborhood of the gland In intrasellar tumor there is first an enlargement in the site of the sella with increasing thinning of its floor and of the dorsum sella followed later by absorption of the posterior clinoid processes and dorsum sella

In the other types of tumor the first change noticed is the absorption of the clinoid processes and of the dorsum sella The sella may be enlarged later but it will not be deepened and rounded as in the case of intrasellar tumors In late cases the findings would be the same

In cases of brain tumors having no topographic relation to the pituitary gland in cases of hydrocephalus changes are found in the sella similar to those caused by extra-sellar tumors The differential diagnosis in these cases can be made only from the clinical symptoms and other roentgen ray findings in the skull

Attention is called to the enlargement of the phenyletic sinus due to pressure from the growth on the sinus cavernosus as described by Schuller

Finally tumors of the acoustic nerve cause a characteristic change in the dorsum sella there being a tendency in these cases for the dorsum sella to incline forward

Peritz G Diseases of the Hypophysis (Hypophysenkrankungen) *M t f Psychiat Neu*
 1913 22: 42

By Zentralbl f d ges C k u Grenzgel

On the basis of our present knowledge of the function of the two lobes of the hypophysis Iritz gives the following scheme of classification for diseases of the hypophysis 1 Diseases of the anterior lobe (a) hypofunction dwarfism (b) hyperfunction acromegaly gigantism 2 Diseases of the posterior lobe (a) decreased function hypophysis (b) hyperfunction diabetes insipidus 3 Malignant (a) meningioma and lipoma (b) glioma and lipoma (c) Gliomas of the hypophysis in connection with disease of the other gland (d) Glioma of the hypophysis eunuchism (e) Glioma of the hypophysis and Gougerot's plurihormonalism and Fata multiple sclerosis These different clinical pictures are discussed in connection

tion with some interesting case histories which particularly illustrate the frequent difficulties of diagnosis. Particularly noteworthy is a very remarkable case of obesity extending only from the hips downward in two sisters of whom only one showed cerebral symptoms, ocular disturbances and positive roentgen findings. Contrary to Lischer's opinion it may be a long time in acromegaly as well as in adipositas (5 years in one case) before injury to the genital gland appears. To explain the peculiarities of the interaction between the function of the hypophysis and the sexual glands he offers the following hypothesis: There is a chemical antagonism between the anterior and posterior lobes (gas metabolism sugar) posterior lobe and sexual gland is contain a secretion which is mutually stimulating. By atrophy of either one the other is injured so that a lack of balance arises between the two parts of the hypophysis. Cushing's theory that hypophyseal obesity is the result of deficient oxidation of sugar is very attractive. Its hypophyseal origin cannot be determined from the localization of the fat. Diagnosis would perhaps be possible by means of investigation of metabolism (respiratory quotient sugar in the blood). More attention should be paid to lymphocytes. Most important at present is the demonstration of swelling of the hypophysis through affection of the optic nerve, widening of the sella turcica, etc. But tumor is not always the cause of disease of the hypophysis as is shown by the changes in the hypophysis in pregnancy as well as the post mortem findings in plural glandular diseases. For this very reason other diagnostic methods must be devised. In this connection it is indicated only when there are severe cerebral symptoms.

TOLLA

Schüller A.: Dystrophia Adiposo-genitalis (Hypothalamo-genital) II. Teil d. Neurol. 93 v. Dtsch. Neurol. 24.
By Zentralblatt f. d. ges. Chir. u. Grenzgeb.

This work is a section of the new handbook of neurology and sets forth the present views in regard to that disease which is characterized by combination of local cerebral symptoms with obesity and atrophy of the genitalia. It is generally considered to be due to decreased functional activity of the hypophysis. The chief therapeutic indication which interests the surgeon is the removal of the cause generally a tumor of the hypophysis. Schüller believes that Bierich's endonasal operation is not only the simplest but offers the best prognosis. The results of the operation are satisfactory. Though in most cases the removal of the tumor by no means complete improvement was however.

Goldzher N.: A Tumor of the Pineal Gland (Lobus basalis posterior) I. Teil. Arch. f. path. Anat. etc. 93, 353.
By Zentralblatt f. d. ges. Chir. u. Grenzgeb.

Goldzher describes a case of tumor of the pineal gland which he examined post mortem. It was a

16 year-old boy and there were metastases in the lungs, liver and peribronchial lymph nodes. The microscopic picture of the tumor and the metastases was very similar to that of the chorio-epithelioma described by Askanazy. In reality it was an angio-plastic sarcoma as described by Malassez and Massee. Of the 13 tumors of the pineal gland thus far collected by Lippenhimer the majority were sarcomata with teratomata or glioma second. In Goldzher's case there was abnormal development of the internal cells of the testicle, excessive spermatogenesis and unusual development of secondary sexual characteristics as hypertrichosis. The fact in connection with the early physiological atrophy of the pineal gland suggests the theory propounded by Biedl and Munster that the internal secretion of the pineal gland is antagonistic to that of the sexual glands so that the latter can only attain full activity when the former has undergone involution. The function of the pineal gland would in that case be antagonistic to that of the hypophysis which favors the development of the sexual gland. Goldzher thinks that the defect in the function of the pineal gland acts directly as well as indirectly through the hypophysis.

G. LE

NECK

Bism F. and Grützner R.: Studies on the Physiology of the Thyroid Gland. Methods of Iodine Determination in Organic Substances (Studien zur Physiologie der Schilddrüse. Methoden der Jodbestimmung in organischen Substanzen). Ztsch. f. phys. u. Chem. 93, 12, 479.
By Zentralblatt f. d. ges. Chir. u. Grenzgeb.

The authors attempt to give the history of iodine metabolism of the thyroid gland by a new method of iodine estimation. Their methods in use at present for iodine determination in organic substances are discussed. They with consideration of inaccuracies to reduce the substance to an ash after mixing them with sodium nitrate especially if large quantities reduced it with on account of the large number of other salt contained in the mixture. The potassium persulfate is recommended as the best reagent for the removal of iodine. Then follows a criticism of the colorimetric and titrimetric determinations of iodine. A number of well known but unsatisfactory errors are pointed out. After reduction of the substance the authors of the complete oxidation with potassium permanganate in acid solution a complete removal of the permanganate with alcohol removal of the alcohol acid with phosphoric acid titration with thiosulfate. The authors also describe a method for quantitative determination of organic iodine in blood plasma which depend upon the complete precipitation of the albuminous substances by means of acetone. The value of the method is illustrated by a few examples which lead to a more satisfactory and indicate the errors to be avoided.

KORU

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Murphy J B : Cylindric-Cell Carcinoma of the Breast *Surg Cl J B Murphy* 1913 II No 4
By Surg Gynec & Obst

The patient under consideration aged 53 years sought advice on account of a hard mass in left breast an inch above and to outside of nipple and about the size of a pigeon's egg. She first noticed the mass in February 1913. It was then hard and of the same size as it is now. She thinks she had a small mass the size of a pea in the breast three years ago but is not positive. She remembers injuring the breast quite severely two years ago. In December 1912 her heart and lungs were examined thoroughly and no mass was found at that time. The mass is not adherent to the chest wall and the skin over the mass is movable. There is no ulceration present, no retraction of the nipple, no axillary lymph node enlargement.

At operation April 29 a frozen section showed it to be a cylindric cell carcinoma and a radical operation was therefore done. The usual H-shaped incision was made extending out on the shoulder and the axilla was cleaned out before removing the breast. The anterior aponeurosis of pectorals and all fatty tissue being removed first. Then the p. major was freed from its costal attachment and reflected out onto the arm splitting it well up to the clavicle. The fascia and fat between the pectorales were then removed as a lymph node is commonly found here. The p. minor was then detached from its costal attachment and deflected out or removed entirely. All the aponeuroses of both these muscles were removed. The edge of each muscle dissected free. Two fingers passed under muscles which were divided close to the ribs so as to leave muscle enough distally to fill in axilla i.e. make an axillary muscle pad. The chest portion of muscles was elevated entirely so as to expose fascial covering of ribs. All lymph nodes and lymph carrying structures were taken out before manipulating breast at all. Thus by going down the chances of metastases from the breast getting into the general lymph circulation are lessened. The axillary vessels were freed very carefully of fat care being taken not to wound the subscapular nerves. The breast itself was then removed taking care to undermine the skin edges as far as possible a very important point.

There is danger that the subsequent contraction of a scar might compress the axillary vein and cause edema but this is prevented by leaving in the pectoral muscle stumps to act as a protecting pad for the axillary vessels and nerves. The next step was to place the pectoral muscle stumps into the axilla. By a few catgut sutures they were swung in down and back into the axilla and fastened to the edge of latissimus dorsi and chest wall. Now all the axillary vessels and nerves were fully protect-

ed. She could swing her arm in any position without interfering with the circulation. The wound was closed by putting in a considerable number of silk worm gut tension sutures and horseshair for the incision taking care that there was no tension on these flaps. A small rubber drainage-tube was put in, extending high up into the axillary space and fixed to skin with a silk worm gut suture. The drainage-tube was taken out at the end of 72 hours and the arm dressed by the side hand resting on the chest. The iodine is first removed with alcohol and then the bismuth subiodide dusting powder is applied.

The drain was removed on the fourth day there having been little drainage. Stitches removed on the fifteenth day. Primary healing. The convalescence uneventful. Patient left five weeks after operation.

Kron N M : Local Anesthesia in Breast Amputation (*Lokalanae thes bei mamma amputation wegen Carcinom*) *Chir z 1913 xxxi 54*
By Zentralbl f d ges Chir u i Grenzgeb

Local anesthesia in amputation of the breast was first used in Russia by Hirschel. Kron's report of the case shows that the patient was a 70 year-old woman with myocarditis dilatation of the aorta and emphysema. Therefore local anesthesia was selected. The anesthesia began with injection in the region of the brachial plexus then in the region of the intercostal nerves. All together 65 ccm of a 0.5 per cent solution of novocaine and 50 ccm of a 0.25 per cent solution with the addition of 8 or 9 drops of adrenaline was used. The amputation of the breast and clearing out of the axilla proceeded smoothly and without pain. The patient recovered and was discharged at the end of ten days. SCHAACK

Kong H M and Mills, C. W : Therapeutic Artificial Pneumothorax *Am J M S* 1913 xlvii 330
By Surg Gynec & Obst

These authors have confined the use of artificial pneumothorax to cases which have failed to improve under the usual and more conservative measures.

Some advocates of the method employ it in so-called early and favorable cases but as most of these cases improve under the usual treatment it is difficult to say just how much of the improvement is due to this particular procedure. Consequently the method employed in the cases here reported is one of last resort.

After discussing the various indications for the treatment and conclusions reached by various authors the technique is described and the histories and skiagraphs of 16 cases are given. Two of the cases have shown marked and seemingly permanent improvement six temporary or slight improvement and in one case hemorrhages have apparently been controlled. In one case of lung abscess no

improvement followed the treatment and in 12 on account of pleural adhesions either no gas could be injected or not enough to produce sufficient collapse

H A POTT

Th m + G F The Röntgen Diagnost of Lesions in the Region of the Mediastinum *Tr im Ps ig Rev Soc Bo ton Oct 1923*

By Surg Gynec. & Obst.

The X ray either radiographically or fluoroscopically offers a means for the early diagnosis of lesions in the region of the mediastinum when pressure symptoms are the patient's only complaint and physical examination is negative owing to the inaccessibility of the mediastinum

A normal position of the mediastinum and its contents depends upon a normal tension in both sides of the thorax and a normal equilibrium between the intrathoracic tension and the intra-abdominal pressure. For this reason plural adhesions or effusions pneumothorax tumors superfluous fat within the abdominal cavity and visceroptosis all cause distortions of the shadow

A broad and mottled mediastinal shadow is indicative of tuberculous mediastinitis. Large discrete shadows of Hodgkin's disease a transverse position of the heart resulting from lengthening of the aorta (without dilatation) of specific aortitis a pulsating tumor of aneurysm and a tumor rising with deglutition a substernal thyroid as opposed to aneurysm. The bi-mammillary esophagus shows numerous variations from normal which are due either to lesions of its wall or pressure from without

The semilateral projections of distinct value for the study of the anterior and posterior mediastinal contents the bodies of the dorsal vertebra and the enlarged thymus

In most cases the outline of the aorta should show distinctly enough through a superimposed shadow to make it possible to differentiate between aneurysm and a mediastinal tumor

Impalpability was given to the dictum that the method of procedure should be a correlation of the anamnesis and the physical and laboratory findings together with an X-ray examination

FRANCIS C. TRACY

HEART AND VASCULAR SYSTEM

Scholz B Th Clinical Picture of Traumatic Rupture of the Heart (Das klinische Bild des traumatischen Herzhappenrisses) *Ztsch f Herzkranzkr Lp 9 1 33*

By Zentralblatt f d ges Chir Göttingen

Scholz describes the picture of true rupture of the heart after explosion of the myocardium or penetration into the pericardium myopericardium or pericardium and gives a typical case. It has been proved experimentally that rupture of the heart plays an important part in the rupture of the heart after explosion of the thorax

Valve injuries are by far more frequent in the left heart. Spontaneous ruptures from excessive high arterial pressure always affect the left heart. In injuries to the pulmonary and aortic valves there is either a perforation of the valve or it is torn off at its attachment. In the auriculo-ventricular valves there is hardly ever a complete separation but individual chordae tendineae or the bundles of papillary muscles are torn. The clinical picture of these two forms of injury is the same. In perforation there is simply insufficiency where the valve is completely or partially torn off there is insufficiency and stenosis. The double murmur being caused by the fluttering of the torn flaps. Pure stenosis is not observed in rupture. It can come only from traumatic endocarditis. The first objective signs of ruptured heart valve are tachycardia, arrhythmia and a fall in blood pressure. After from a few hours to a few days a pathognomonic sign of rupture appears a very loud grating, double murmur at first without enlargement of the heart and the healthy muscle maintains compensation. Gradually the picture becomes more like that of heart failure from endocarditis. The subjective symptoms generally appear after a few days and consist of marked dyspnea and painful sensations in the region of the heart

Wrede L Direct Massage of the Heart (Über direkte Herzmassage) *Ztsch f kl Ch 20 3 1833* By Zentralblatt f d ges Chir u Göttingen

The author attempted to answer the question as to whether it is possible to bring about artificial circulation by means of direct massage of the heart. He injected a solution of carmine carotid into the left external jugular vein of dogs that he had killed and then induced artificial respiration and applied direct massage to the heart. After a time he succeeded in finding the dye in the blood of the veins as well as in that of the arteries. From this fact he concluded that the dye must have passed through the capillary system. The dye was found also in the portal blood. Whether the passage through the capillaries occurred in the direction of the normal circulation or in the opposite direction could not be proven absolutely. However, during the massage the blood pressure was considerably higher in the arteries than in the veins, it seems at least very probable that the circulation of the blood was in the normal direction

Adrenal preparations were found to increase the effect of the direct massage of the heart considerably. Often the experiments with manual massage of the heart and artificial respiration failed and the heart beat did not begin until after parinephrine had been injected into the blood channel. The effect of the parinephrine, however, disappeared quickly. To obtain more lasting results according to Kretschmer a solution of adrenal preparation must be allowed to flow continuously. The author did not succeed in obtaining a continued increase in blood pressure by this method. He believes how

ever that the preparation should be injected repeatedly in order to obtain at least a repeated increase in the blood pressure

Of great importance for the results of direct massage of the heart is good artificial respiration. Even after the beginning of spontaneous breathing it must not be interrupted too soon. In his experiments with animals the author noted on the reawakening of the respiration centers that, in spite of continued artificial breathing and independent of it there was first a period of dyspnoic breathing. This he believes was to rid the respiration centers of the excess of abnormal metabolism products for only when that had been accomplished did the reaction to the respiration stimulus become normal. In the case of man the author believes it is very important that the artificial respiration should not be interrupted until the respiration centers have become completely quieted.

Numerous failures of direct massage of the heart Wrede attributes to faulty artificial respiration. The result of massage of the heart is dependent not upon the vitality of the heart which is great but upon the vitality of the cerebrum which expires within ten to fifteen minutes after the circulation has been interrupted. The heart muscle itself may be severely injured by the massage but Wrede believes that such injuries can be avoided and recommends the method for suitable cases.

M. O. BACON

PHARYNX AND ESOPHAGUS

Millspaugh W. P. Some Interesting Esophageal Cases. *Laryngoscope* 9:3, xxiv, 938.

By Surg. Gynec. & Obst.

Millspaugh gives an interesting list of foreign bodies which have been removed from the esophagus under his supervision. The first instance is that of an insane woman swallowing a nine inch knife which was finally removed by gastrostomy. In his second case while no foreign body was found in the esophagus the experience shows the danger of using too much cocaine in the performance of passing the tube. Tooth plates and parts of tooth plates are among the foreign bodies most frequently swallowed while coins are common articles which children are prone to use for obstructing the esophagus. One patient imagined that her tooth plate which she swallowed six years before was still in the throat. An X-ray cleared the diagnosis but the woman still believed her teeth were in her esophagus.

Fragments of bone caught in the esophagus are a frequent cause of worry and trouble. Millspaugh relates a very interesting case of a girl about 24 years old who had produced a long stricture in her esophagus by swallowing pure nitric acid. After many attempts at dilatation in company with two other physicians he endeavored to introduce the bronchoscope which resulted in tearing an opening through the pericardium through which the three surgeons saw the pulsating heart. H. B. Brown.

Meyer W. Esophagoplasty. *In Surg. Phila.* 1913, lvi, 289.

By Surg. Gynec. & Obst.

From the experience of three cases of esophageal stricture in which plastic operations have been done the author discusses the technique and possibilities of esophagoplasty by the Janu Roepke method in which the lower end of an extrathoracic esophagus is constructed from the partially excised greater curvature of the stomach. In no case was the plastic tube long enough to connect with an oral stump but the author believes the gap can be successfully bridged by a plastic operation on the skin or by the use of a tube. From experiments on animals he suggests the possibility in some cases of using the Janu tube intrathoracically anastomosing it directly to the esophageal stump proximal to the stricture. In the use of the Janu tube extrathoracically it is perhaps better to transplant the tube subcutaneously than subpectorally.

The author believes that the reconstruction of an esophagus is to be thought of not only in cases of benign stricture and operable malignant tumors but in the inoperable malignant strictures as well for in such cases the restoration of the power of swallowing would remove the patient's greatest hardship.

BARNBY BROOKS

Denk W.: The Radical Operation for Carcinoma of the Esophagus (*Die Radikaloperation des Oesophagus carcinoms*). *Z. f. Chir.* 91:3, xl, 1065.

By Zentralbl. f. d. Chir. u. Grenzgeb.

In experiments with cadavers and animals Denk has worked out a method of radical operation for esophageal carcinoma by which the thorax is not opened. With moderate differential pressure or Auer-Meltzer insufflation a 20 ccm incision is made parallel to the left costal arch. The peritoneum over the cardia is freed bluntly, the agas branches being avoided and the esophagus is mobilized in the hiatus and mediastinum up to the bifurcation; a special instrument being used. If the carcinoma cannot be freed gastrostomy is performed. After the lower esophageal segment is freed the neck is opened followed by mobilization. With bimanual preparation the fingers reach several centimeters from the abdomen and neck toward the opposite covering. If the carcinoma lies above the bifurcation the operation is begun at the neck. After mobilizing the esophagus it is severed close to the cardia; after crushing and applying metal clamps, one lamina caudally. The esophagus with the carcinoma is pulled through the neck wound and divided above the carcinoma. The stump is placed subcutaneously antethoracically on the cut surface of the esophagus being sewed into the skin. The cardia is closed; the opening in the diaphragm sutured and gastrostomy performed. The latter might be done two or three weeks earlier through the right rectus muscle. After healing an esophagus tube is connected with gastrostomy tube. Later antethoracoplasty is performed. The advantages of this method are avoidance of the

improvement followed the treatment and in six on account of pleural adhesions, either no gas could be injected or not enough to produce sufficient collapse

IF A Potts

Thom a, G F The Röntgen Diagnosis of Lesions in the Region of the Mediastinum *Tr Am Röntg Ray Soc Boston, Oct 1913*

By Surg Gynec. & Obst

The X ray either radiographically or fluoroscopically offers a mean for the early diagnosis of lesions in the region of the mediastinum when pressure symptoms are the patient's only complaint and physical examination is negative owing to the inaccessibility of the mediastinum

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A broad and mottled mediastinal shadow is indicative of tuberculous mediastinitis, large discrete shadows, of Hodgkin's disease, a transverse position of the heart resulting from lengthening of the aorta (without dilatation) of specific aortitis, a pulsating tumor of aneurysm and a tumor rising with deglutition on a substernal thyroid as opposed to aneurysm. The bi-monthly visualized esophagus shows numerous variations from normal which are due either to lesions of its wall or pressure from without

The semilateral projection of the trachea and the study of the anterior and posterior mediastinal contents, the bodies of the dorsal vertebra and the enlarged thymus

In most cases the outline of the aorta should show distinctly enough through a superimposed shadow to make it possible to differentiate between an aneurysm and a mediastinal tumor

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FRANCIS C. TIERNEY

HEART AND VASCULAR SYSTEM

Schoff B The Clinical Picture of Traumatic Rupture of the Heart Valves (Der traumatische Herzklappenriss) *Zi f f inner g med Leipzig 93, 33*
By Zentralbl f d ges. Chir. Grieshaber

Schoff describes the picture of true rupture of the heart valves after laceration of the symptoms due to hemorrhage into the endocardium myocardium pericardium. It gives a typical case. As has been proved experimentally, the pericardium plays an important part in rupture of the heart valves caused by trauma of the thorax

Valve injuries are by far more frequent in the left heart. Spontaneous ruptures from excessive high arterial pressure always affect the left heart. In injuries to the pulmonary and aortic valves there is either a perforation of the valve or it is torn off at its attachment. In the auriculo-ventricular valves there is hardly ever a complete separation but individual chordae tendineae or the bundles of papillary muscles are torn. The clinical picture of these two forms of injury is the same. In perforation there is simply a sufficiency where the valve is completely or partially torn off there is insufficiency and stenosis the double murmur being caused by the flapping of the torn flaps. A pure stenosis is not observed in rupture. It can come only from traumatic endocarditis. The first objective signs of ruptured heart valves are tachycardia, arrhythmia and a fall in blood pressure. After from a few hours to a few days a pathognomonic sign of rupture appears, a very loud grating double murmur at first without enlargement of the heart since the healthy muscle maintains compensation. Gradually the picture becomes more like that of heart failure from endocarditis. The subjective symptoms generally appear after a few days and consist of marked dyspnoea and painful sensations in the region of the heart

Wrede L. Direct Massage of the Heart (Über direkt Herzmassage) *Arch f kl Chir 93, 1*
833 By Zeitschr f d ges. Chir u. Grieshaber

The author attempted to answer the question as to whether it is possible to bring about artificial circulation by means of direct massage of the heart. He injected a solution of carmine corallum into the left external jugular vein. He dogs that he had killed and then induced artificial respiration and applied direct massage to the heart. After a time he succeeded in finding the dye in the blood of the veins as well as in that of the arteries. From this fact he concluded that the dye must have passed through the capillary system. The dye was found also in the portal blood. Whether the passage through the capillaries occurred in the direction of the normal circulation or in the opposite direction could not be proven absolutely. However, as during the massage the blood pressure was considerably higher in the arteries than in the veins it seems least very probable that the circulation of the blood was in the normal direction

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To sum up the advantages of the oblique and transverse incision more accurately it will be necessary to await the results of a greater number of cases

FIEDLER

Weishaupt E. A Case of Extraperitoneal Adenoma and Two Cases of Intraperitoneal Myoma of the Round Ligament with Remarks in Regard to the Origin of Inclusions of the Epithelium (Ein Fall von extraperitonealem Adenom und zwei Fälle von intraperitonealem Myom des Ligamentum rotundum mit Bemerkungen über die Herkunft der epithelialen Einschlüsse)

Arch f G, 42 19 3

491

By Zentralbl f d ges Ch Geburtsh u d Grenzgeb

Cases are described with details of the histological findings. Tumors of this kind originate from the epithelium of the peritoneum and the processus vaginalis peritonei. A fetal origin is to be thought of only in a very few cases where there is a morphological conformity with renal glomeruli. Inflammation must be considered the disposing factor in all cases

KOHLEB

Gotjes H: Surgical Treatment of Ascites (Z chirurgischen Behandlung des Ascites) Verhandl d Gesellsch deutsche Nat forsch 1913 19 3

Grenzgeb

Gotjes determined by animal experimentation that stasis in the region of the collateral branches of the portal vein is easily compensated while stasis in the region of the superior mesenteric vein is the chief source of supply for the portal vein is irreparable and can only be borne when an artificial way is provided for collateral circulation in this region. Therefore he proposes as a modification of Talma's operation to split the left fold of the mesentery and dissect it back for about a hand breadth to make a peritoneal wound of about the same extent over the seat of the left kidney and to fasten the edges of these peritoneal wounds together throughout their entire extent thus creating the possibility of a collateral circulation between the superior mesenteric and left renal veins

BLEISINGER

Sick C and Fraenkel E. The So called Biliary Peritonitis (Ein Beitrag zur sog galligen Peritonitis) Beitr z kl Ch 1913 19 3

Grenzgeb

The authors report a case of so called biliary peritonitis. At operation a minute traumatic perforation of a healthy gall bladder was found. Serial sections were made and are reported on in the original article. On the basis of this and the Nauwerck Lubke case the authors conclude that a similar condition must have existed in most of the cases reported up to the present time as biliary peritonitis without perforation of the gall bladder. The perforations in these cases must have been so small as to escape notice. Serial sections are really necessary to decide whether the gall bladder wall has been completely or partially punctured. Even

careful macroscopic examinations of a suspected area are not sufficient to decide whether actual perforation has occurred. Peritonitis certainly did not arise from contact with sterile bile. Cholecystectomy is recommended as the best treatment of the conditions

BLEISINGER

Weber F: Injury with a Pointed Instrument with Comments on Prophylaxis and Treatment of Peritonitis (Ein Fall von Pflügelverletzung im Anus mit daran anknüpfender Prophylaxe und Therapie der Peritonitis) München med Wchnsch 1913 19 3

By Zentralbl f d ges Ch Geburtsh u d Grenzgeb

A 21 year old girl fell in the hay field on the prong of a rake which she said penetrated 30-40 cm into the vagina. In the left vaginal vault a jagged tear into the parametrium admitted two fingers. An iodoform gauze strip was placed in the wound and the vagina loosely tamponed. After twelve hours marked symptoms of peritonitis developed and laparotomy was performed. In the abdominal cavity a large quantity of fluid and coagulated blood was found. Below the left ovary a tear in the peritoneum 5 cm long passed through the parametrium into the vagina. No other injury being noted. The patient was placed in an extreme Trendelenburg position and the abdominal cavity washed out with 25 liters of salt solution. The peritoneal tear sewed up. The parametrium left open toward the vagina. 30 ccm of 10 per cent camphorated oil placed in the abdominal cavity and the abdomen closed. Recovery was uneventful.

The author cites 200 cases where excellent results were obtained by abundant irrigation with salt solution when the peritoneum had been soiled by ruptured pyosalpinx or ovarian tumors or tubal abortions. The treatment being much less severe than dry sponging. The application of sterile camphorated oil increases the favorable effect. Even when peritonitis has already developed irrigation with salt solution and application of camphorated oil give excellent results

HEZZO

Despard D L. Subdiaphragmatic Abscess. A n Surg Phil 1913 19 334

By Surg Gynec & Obst

Despard reviews the anatomical relations of the viscera in the subdiaphragm and points out the boundaries and localities in which pus may accumulate and form subdiaphragmatic abscesses.

These abscesses are usually secondary to some lesion causing direct contamination of this area as a perforating gastric or duodenal ulcer or next in order of frequency by infections spreading by continuity or contiguity from the appendix gall bladder liver pelvic organs thorax or spleen.

He reports four cases and suggests a method making use of an extra and an intraperitoneal incision by which many of these abscesses may be opened and drained without draining through either the pleural or the peritoneal cavities.

ity of this area. The average index in 3 cases was 78 or normal and therefore showed that little or no value was to be placed on these data as a guide to the presence or absence of visceral ptosis.

In the 83 children of average development examined the average position of the stomach was much lower than usually considered normal. The ideal cow-s-horn stomach is rare. In most of these cases the stomach was of the horizontal or sink drain type and was often dilated. However the writer believes that a low stomach in a child does not indicate a pathological ptosis and that poor posture does not cause ptosis in children. PAUL P. SWETT

Sherren J. Diagnosis and Surgical Treatment of Gastric and Duodenal Ulcers. Report of 369 Operative Cases (Diagnose und chirurgische Behandlung des Magens und Duodenalgeschwurs \ bst dem Bericht über 369 operative behandelte Fälle). Bfkl Wkch 1913 85
B Zentralbl f d ges G3 ak u Geburtsh s d Grenzgeb

The author reports 369 operative cases of ulcer 170 of them gastric and 190 duodenal. The chronic gastric and duodenal ulcer is more frequent in men than in women. The perforating duodenal ulcer in contrast to the perforating gastric ulcer is also more frequent in men. The author does not agree with Wilkie in his assertion that inflammations of the appendix have any connection with the etiology of chronic ulcers or inflammatory conditions of the ileocecal region (coprostatia) with duodenal ulcers. When typical symptoms are present the diagnosis of gastric and duodenal ulcers is relatively easy in atypical cases of gall stones and chronic appendicitis then gastric crises of tabes, lung and kidney conditions enter into the differential diagnosis.

In the differential diagnosis between gall stones and duodenal ulcer or between appendicitis and gastric ulcer the hyperacidity speaks for ulcer while in differentiating chronic gastric from duodenal ulcer high acidity points to the latter. The author found no constant difference in the results of test breakfasts in cases of ulcer near the pylorus or far removed from it near the lesser curvature. X-ray exposures after bismuth meals in cases with no deformity have at the present time little value at no time could the author observe with any certainty retardation in the emptying of the stomach in cases of chronic duodenal or gastric ulcers.

Increased peristalsis of the pylorus end of the stomach observed not in gastric conditions alone but also in cases of gall stones and chronic appendicitis. In all cases which were clinically doubtful the X-ray was of no value.

In 50 cases of ulcer of the hour-glass stomach the diagnosis was made in 4 and wrongly made in one case of gall stones and one of chronic appendicitis. Among the 369 cases 58 were perforated (30 duodenal and 28 gastric). In contrast to the duodenal in the gastric group the acute ulcer usually perforated in the majority of cases situated at the anterior stomach wall and was more frequent in

women than men. The perforation rarely occurred without prodromal symptoms.

The surgical treatment of chronic gastric ulcer consists at the present time in all cases of gastrojejunostomy with at the same time inversion or excision of the ulcer without pylorus exclusion. Surgical treatment which was only used as a last resort after failure of thorough internal treatment or relapse showed 80 per cent complete cures and was connected with very slight risk to the patient. The author believes that the chronic gastric ulcer situated at the pylorus or in the fundus will heal after gastrojejunostomy provided that it is not adherent to the pancreas or posterior surface of the liver in the latter cases excision is preferable. In 28 cases in which the posterior no-loop gastroenterostomy (the operation of choice) was made impossible by adhesions the gastrojejunostomy anterior retrocolica gave the same satisfactory results. Of 151 cases the treatment in 4 was excision without a death in 17 excision and gastrojejunostomy with 1 death in 2 gastrectomy with 1 death and in 109 gastrojejunostomy with 2 deaths. In none of the latter cases was malignant degeneration observed. In 19 cases of hour-glass stomach the treatment in 10 cases was gastrojejunostomy posterior with no death in 5 cases gastrojejunostomy anterior with 1 death in 2 cases double gastrojejunostomy with no death in 2 modified Roux operation with no death. The results in all cases were satisfactory.

Before the operations on the stomach the author gives his patients nothing but sterilized food for 4 hours. After the operation the patient may drink water at will and in case vomiting occurs food is withheld and the stomach washed out. Vomiting however is unusual. For three months after the operation care is taken with the diet: roast beef, ham and bacon being absolutely excluded.

The surgical treatment of chronic duodenal ulcers in which all medical therapy had been useless consisted in inverting the ulcer and making a posterior gastrojejunostomy without pyloric exclusion. Of 1601 cases only 2 terminated fatally.

The treatment of the perforating gastric and duodenal ulcers consisted in closure of the perforation through inversion or excision in duodenal ulcers gastrojejunostomy was necessary at the same time in acute gastric ulcers it is not only unnecessary but unwise if the normal function is not disturbed through stenosis in chronic perforating gastric ulcer the same treatment was used as in non-perforating. The free fluid was sponged off no irrigation being needed and drainage seldom being used. The abdominal wound was always closed and only in a few cases was pelvic or lumbar drainage inserted.

Of 8 perforating gastric ulcers 16 healed in the first 24 hours the unhealed cases again being operated upon later. In contrast to hæmatemesis of young women which in 75 cases was the first symptom the author advises the following treatment in

Stover G H: Röntgenology in Estimating the Operability of Carcinoma Gastrica. *Dinner H* Tom 1 1913 xxxi: 85 By S R Cyner & Obst

Stover reports five cases with seven illustrations. He follows the technique of Holtzschnecht and Handek, and takes a series of roentgenograms as he claims that numerous plates must be made to produce a full record. Certain characteristics must be followed through a series of plates of a digestive cycle as some things seen upon a single plate lose their significance according to whether they are present or absent during the further course of the examination. A wide familiarity with the detail of this branch of anatomical physiology is necessary to read roentgenograms correctly as it is charlatanry to pretend that a stomach picture can make a diagnosis from a single plate produced by a roentgenographer.

The author believes that gastric roentgenology will revolutionize the field of gastro-enterology. Instead of a multiplicity of disease entities based on subjective and objective symptoms, their number will be greatly reduced because several groups of them will be recognized as being simple variations of a few definite pathological conditions. This will simplify the classification and lead to greater efficiency of treatment. Surgical interference will be resorted to much oftener and earlier and as a result months or years of suffering from curable digestive disorder will be avoided and the lives of many patients suffering from major and malignant diseases of the stomach will be saved. Also fewer useless operations will be performed. J H C BURKE

Chastenet d Guéry M: Autoplasty of the Stomach by Transplantation of an Intestinal Loop (L'opération d'autoplastie stomacale par la transplantation d'une boucle intestinale). *Gaz. Méd. de Paris* 93 xxxv 54 By Journ. de Chirurgie

To re-establish the continuity of the digestive tube after extensive gastrectomy, the author proposes to unite the oesophageal end of the stomach to the duodenum by using a segment of the jejunum as a graft. This method he tried once only on a dog. The operation is performed in two stages: (1) Gastro-duodenal resection which presents no unusual features and (2) autoplasmic repair. The latter is subdivided into two stages as follows:

1. The graft is detached and the continuity of the duodenum is re-established. The segment to be transplanted is taken from the first meter of the jejunum where the mesentery is of some length and the arrangement of the vessels is such that the mesentery can be isolated sufficiently well without damaging its vitality. The continuity of the jejunum is re-established by means of a button and the break in the mesentery is carefully sutured.

2. The graft is put in place as follows: The segment of jejunum with its mesentery is passed through a non-vascular space in the mesocolon large enough so that the nutritive pedicle is not compressed. The anastomosis of the upper end

with the oesophagus is performed by either Billroth's or Kocher's method, the anastomosis of the lower end with the duodenum by circular enterorhaphy or by means of a button.

It must be admitted that the operation is long and complicated. However, it is no more complicated than many other visceral operations and by the use of the button in the two places mentioned above it may be shortened considerably.

The author believes that this operation is indicated in a considerable number of cases of gastric or gastro-duodenal resection for ulcer or cancer particularly when as the result of adhesions or any other cause it is impossible to bring the oesophageal end of the stomach into close approximation with the end of the duodenum. J DEMOVR

Cole L G: Physiology of the Pylorus Pileus Ventricle and Duodenum as Observed Röntgenographically. *J. Am. Med. Assn.* 913 13 62 By S R Cyner & Obst

Cole lectures that embryologically, anatomically and physiologically the first portion of the duodenum is associated with the stomach and is really a part of the stomach, not a part of the small intestine which comes from the midgut. The first portion of the duodenum coming from the primitive foregut differs materially from the second and third portions of the duodenum. The contents of the first portion of the duodenum are acid like the chyme in the stomach.

The author further claims that like the heart action gastric action takes place in cycles marked by a systole and diastole or an alternating contraction and relaxation of all of the peristaltic waves. The time occupied by the formation and duration of each terminal wave forms a gastric cycle.

The term pileus ventriculi or cap of the stomach, Cole applies to the first portion of the duodenum which he concludes must be considered as a continuation of the stomach itself. Since ninety-five per cent of the ulcers which occur beyond the pylorus are found in the first inch and a half of the intestine viz the cap, they should be described as post pyloric rather than duodenal ulcers.

The pileus ventriculi is separated from the pars pylorica by a space varying from one-eighth to one-quarter of an inch indicating the pyloric sphincter. The amount of contraction of the pyloric sphincter varies in proportion to the activity of the gastric peristalsis; i.e. when the gastric peristalsis is feeble the contraction of the sphincter is weak and when the gastric peristalsis is strong the sphincter is more tightly contracted.

The function of the cap is that of a reservoir receiving the acid chyme propelled through the pylorus during the systole of each gastric cycle. During the early stage of digestion the chyme is rapidly withdrawn from the reservoir cap by a rather broad periodic peristaltic contraction probably caused by the alternating alkaline and acid reactions in this portion of the intestine. As

bleeding from chronic duodenal and gastric ulcers. When the bleeding has stopped and the condition of the patient makes it possible (usually after 36 to 48 hours) or when the hemorrhage continues or recurs direct treatment of the bleeding point should be attempted because for bleeding from a larger vessel gastrojejunostomy is insufficient.

In bleeding gastric ulcers the author advises ligation of the apparent vessel and excision of the ulcer with opening of the stomach if necessary followed by gastrojejunostomy. In bleeding duodenal ulcer he advises the inversion of the ulcer and ligation of the gastroduodenal artery and finally the opening of the intestine with gastrojejunostomy. With this treatment the author has had excellent results.

The so called paralytic vomiting which follows gastrojejunostomy easily yields to gastric lavage. In 4 cases a second operation was made necessary by persistent regurgitant vomiting. Stubborn diarrhoea never occurred. In 5 cases of gastrojejunostomy posterior without loop (4 duodenal and 1 gastric) a second operation was necessary on account of a jejunal abscess situated on the anterior surface of the distal portion of the jejunum.

Excision of the ulcer, excision of the anastomosis, and a modified Roux operation brought about healing. **BLENNOR**

Hall J N: The Complications of Peptic Ulcer
Med Rec 913 lxxiv 566

By Surg. Gynec. & Obst.

This study of the complications of ulcer is based upon the cases in the private practice of the author. During the past eleven years the diagnosis of gastric ulcer has been made 188 times by the author that of duodenal ulcer 78 a total of 266. The proportion of duodenal ulcers would be greater under the present methods of classification since all ulcers involving the pylorus have been placed under the gastric ulcers.

Among the complications the author considers first those arising from mechanical disturbances. Dilatation of the stomach is a very common result either from pyloro-spasm or cicatricial narrowing of the pylorus or a combination of both. Stenosis of the cardiac orifice is comparatively rare and fortunately so for the treatment is not easy. Stenosis of the duodenum is not uncommon and sometimes the duodenum has caliber about the size of the little finger. Such narrowing may come either from a scar in the site of an ulcer or from contracture of adhesions. Adhesions may involve any of the neighboring structures—the liver, pancreas, spleen, gall bladder or the abdominal wall.

Perforation is one of the gravest complications of ulcer. Perforation into the general peritoneal cavity is rapidly followed by severe symptoms. Perforation into the lesser sac is not uncommon and is more difficult of recognition, and perforation into the bowel is occasionally found.

Extension of the infection may cause subphrenic

abscess, empyema or even a septicæmia or pyæmia. Hemorrhage from the site of the ulcer is usually not severe but marked anemia from repeated losses of blood is not uncommon. Vascular changes are not uncommon and an edema of the extremities may develop with no cardiac or kidney changes.

Epigastric hernia is a frequent coincident of peptic ulcer and parotitis is common and it is occasionally of the suppurative type. Jejunal ulcer developing after a gastroenterostomy has not occurred in the experience of the author. Appendicitis is a rather frequent forerunner of ulcer.

Cancer is one of the most serious complications of gastric and duodenal ulcer. Sixty six per cent of the pylori excised by the Mayos for cancer showed origin in an ulcer while 71 per cent of those excised under the belief that they were cases of ulcer showed cancerous changes. The author urges more general adoption of surgical treatment of ulcer.

J H SMITH

Wise W D	Acute Perforating Gastric and Duodenal Ulcer	A Report of Nine Cases.
<i>Surg. Gynec. & Obst.</i>	93 xlvii 377	By S. R. Gynec. & Obst.

The author calls attention to the common occurrence of gastric and duodenal ulcer and the frequency of perforation, seeking to put on his guard the general practitioner who rarely sees more than an occasional case.

In discussing the symptoms and diagnosis he emphasizes the importance of the history of indigestion, the suddenness of onset, the severe knife-like pains and marked abdominal rigidity. The conditions most likely to be confused with perforated stomach or duodenum are extra uterine pregnancy, acute pancreatitis, phlegmonous cholecystitis, pneumonia and most often with chronic appendicitis. In cases where there is grave doubt as to whether it is appendicitis or perforation the author opposes a compromise incision, thinking it better to make two incisions if the first wrongly placed. If after a gridiron incision has been made, the trouble proves to be a perforation the first incision can be used for drainage. Closure of the perforation with a reinforced purse string suture rather than excision is advised. It is thought safer to aoid perforating a gastroenterotomy unless evidence of a duodenal perforation encroaches on the lumen to such an extent as to demand it. Drainage is advocated in all cases.

In the series of cases reported there were five perforations of the duodenum and four of the stomach. All of the former occurred in the first portion and on the anterior surface. Of the gastric perforations, two were on the lesser curvature. Two others were at the pyloric end, one on the anterior and one on the posterior surface. All were of sudden onset. Eight gave a history of dyspepsia. In one case there was no record. Two cases were complicated by pneumonia and one by hiccough. Seven of the patients recovered, two died, making a mortality of twenty two per cent.



Fig 3 (W like) Diverticulum periteneous long with ulcer on in stomach & first part of duodenum

the infiltrated tissues. Until some means are devised to reach an early diagnosis of the condition the mortality will necessarily remain extremely high.

J H SKILES

Wilkie D P D Duodenal Diverticula and Duplication of the Duodenum. *Ed & U* 1913 129 By Surg Gynec & Obst

The author attempts a review of the literature and appends a description of several cases which have come under his observation. In the literature there are reports of only 68 cases of diverticulum and the large percentage of these were found in elderly people at autopsy and in 83 per cent of the cases involved the second portion of the duodenum. The location of the opening of the diverticulum is most frequently near the ampulla of Vater or near the opening of the duct of Santorini. The sac is usually pharyngeal in shape and may vary in size from that of a hemp seed to that of a hen's egg. The walls of the sac are made up almost entirely of mucosa and submucosa; the muscular layers being absent either ending abruptly at the neck of the sac or in a few cases trailing off gradually over the proximal part of the sac. The sac usually springs from the postero internal aspect of the duodenum and thus lies in contact with the head of the pancreas, which it indents.

As to the etiology of these diverticula there are several theories. The author believes that the large proportion of these conditions are due to congenital abnormality. During embryonic life the hepatic and pancreatic anlage are given off from the duodenum in the form of buds. It is reasonable to suppose that an extra bud from the primitive gut might naturally form a diverticulum. This theory is further supported by the facts that the diverticula in a large percentage of the cases arise near the location of these early buds and further that accessory pancreatic lobes have been found associated with diverticula.

In the region of the first part of the duodenum occasional cases of diverticulum have been reported. These apparently arise from an old ulcer and may be associated with stenosis. In diverticula of the isthmus of the duodenum the portion just beyond the pylorus the etiology seems to be the anatomical weakness of the wall in this region when any in-



Fig 4 (W like) Ulcer diverticulum of first part of duodenum

crease in intraduodenal pressure occurs give way to form a pouching out of the wall.

Duplication of the duodenal wall usually in the form of ring like constrictions may occur at any location but is most commonly found in the first and second portions. This condition usually presents itself as a valve like projection of the mucosa into the lumen of the bowel and may give rise to considerable narrowing of the lumen. On closer examination these projections are seen to contain all the layers of the bowel and the impression given is that the walls of the duodenum are too redundant for the enclosing sheath. The condition is of undoubted congenital origin and may be associated with a diverticulum.

The case reports are very interesting and especially bring out the fact that these conditions, diverticula and duplications of the duodenal wall may be associated with many grave pathological conditions as a result of their presence.

J H SKILES

Hartwell J A Intestinal Obstruction. *J Exp Med* 1913 39 By Surg Gynec & Obst

Whipple, Stone and Bernheim studied the cause of death in dogs with high intestinal obstruction by producing a closed loop of the duodenum beginning

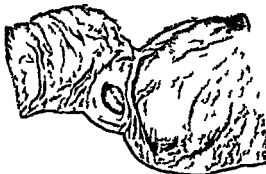


Fig 5 (W like) Wide mouthed diverticulum of the duodenum at bulb

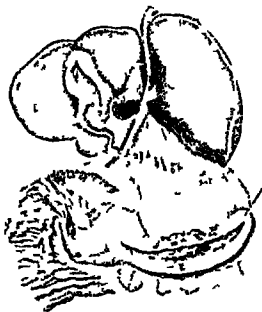


Fig. 1 (Wilk.) C. n. n. 11. Cul. r. d. e. t. 1 m. of the d. len. m. box. with top cut re of the d. ad. wall. Note the hemorrhagic pancreas. 1/4. 1/2. necrosis in the ga. tro-hepatic omentum and gall tubes.

digestion; reduced the c. p. i. more completely filled with the acid chyme. Considering the presence of Brunner's glands, it is conceivable that the finishing touches of gastric digestion are received here by the small portion of chyme thus isolated from the bulk of food; that at each

Contrary to the accepted views of physiology, especially as on Col. believes that during the systole every gastric cycle (as defined by him) the pylorus is open and through the lumen a small amount of liquid chyme is propelled into the cap. The peristaltic pulsation or upes about seven tenths of the cycle the other three tenths being occupied by distal. The terminal peristaltic contraction which has meanwhile been discharging the pylorus now releases the phincter and closes it so that its lumen is nearly obliterated.

A further interesting conclusion reached is that the reflux from the right intestine has extended the emptying of the stomach, peristaltic not only the pyloric sphincter but on the traction which withdraws the chyme from the reservoir cap. the duodenum; replenished from the c. p. i. not from the stomach.

J. J. C.

Knapp, R. I. R. troperit. near Rupture. Surg. Duodenum. Proc. Roy. Soc. Med. 93. Surg. Dec. 1907. Surg. Gynec. & Obst.

The author gives description of a case which has come under his observation and was treated



Fig. 2 (Wilk.) D. r. k. u. l. e. p. e. r. i. t. e. n. i. t. i. s. w. t. h. l. i. g. n. e. r. u. l. e. r. f. i. r. s. t. p. a. r. t. o. f. l. e. n. m. b. o. x. c. y. s. t. i. l. n. d. g. a. l. l. s. t. o. n. e. m. l. i. n. e. d. h. e. p. a. t. i. c. r. e. b. w.

other case which has been told from the literature. Both of the cases described resulted from a lesion of the fundus of the stomach.

Owing to the nature of the condition, the rupture of the stomach does not present symptoms as early enough as a rule to make operation much available. The onset is usually with a considerable hiccough but this is usually temporary, with patient does not perceive the taking of food so it seems intra-peritoneal rupture is a fact. Only later to the outstanding features of the case enable a probable diagnosis. The features of the following (1) retroperitoneal translocation of the stomach content. (2) extravasation of food into the chest cavity. (3) the stomach so to go on to the lower abdominal region. (4) continuous bowing with the lower abdomen. The abdominal distention not expected until perforation has taken place of the peritoneum attract attention. It is usually fatal.

Lord and others may be considerable peritonitis present in the region of the stomach. Hemorrhage is not infrequently the accompaniment and in one case a record of the abdomen was followed with blood. Emphysema in the region of the stomach is a very graphic finding and points strongly to a lesion of the duodenum. The necrosis occurred only in the fundus and was not of the stomach.

The treatment of this condition has been very unsatisfactory because the symptoms during the necessity for operation do not appear early enough for the operation to do any good. I therefore think the great essential and it may be necessary to make multiple incisions in the back to facilitate drainage.

Schubert G Contributions to Post Operative Ileus (Beträge zum postoperativen Ileus) *Zschr f Geb rth u Gynäk* 9 3 lxxix 500
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

Post-operative ileus appears ten to fourteen days after laparotomy. The causes are (1) Mechanical irritation of the intestines and peritoneum (2) infection of the abdominal cavity (3) agglutination of intestinal loops to wounds and bands of adhesions (4) closure of mesenteric vessels. A differential diagnosis between paralytic and mechanical post-operative ileus is of secondary importance for the treatment.

Prophylaxis. Avoid too severe laxation before operation. The evening before use enemata but not laxatives. Do not starve the patient during the preparatory treatment; only the supper the evening before the operation should be omitted. A careful use of laparotomy pads overcomes the disturbing element of distended bowels. All wound surfaces and stumps must be carefully covered with peritoneum.

After treatment. The bowels are stimulated by hot applications. If the bowels are sluggish physostigmin is given but not glycerine and water enemata. Vomiting with obstinate retention of gas is treated by irrigation of the stomach and high colonic flushing. If obstruction of the duodenum is suspected the patient is placed upon the left side and the stomach is washed out. Should these measures fail the abdomen is again opened. An enterostomy should be avoided if possible.

In paralytic ileus a long intestinal tube is inserted through the rectum as high up as possible and under control of the hand of the surgeon. If the bowel remains distended even if a good evacuation is obtained the same is incised or punctured and sutured into the laparotomy incision. In post-operative diffuse peritonitis the abdomen is opened on both sides and irrigated; the bowels are emptied by a double bilateral enterostomy. In mechanical ileus the adhesions are loosened and the intestinal loops are tested to determine their viability. If a suspicion of gangrene exists a primary resection of the bowel is performed provided the general condition of the patient permits it; otherwise enterostomy. The earlier the abdomen is reopened the better the results will be.

MICH X

Sasaki J The Comparative Value of Free Flaps from the Omentum Peritoneum and Mesentery for Strengthening Sutures (Vergleichende Studie über den Werth künſtlicher Leinwandnetze für die Mesenterienklappen) *Drtsch Ztschr f Chir* 9 3 lxxix 6
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

Sasaki carried out numerous experiments on dogs to determine whether free flaps from the omentum peritoneum or mesentery can be used safely to reinforce unsatisfactory sutures in stomach and intestinal wounds and to prevent peritonitis. He decided in the affirmative. In his experiments the

small intestine was resected and the ends brought together with only a single suture. Instead of suturing the serous membrane a transplanted flap was applied. When peritoneal or mesenteric flaps were used the animals lived but when flaps from the omentum were used they died. This fact the author attributes to the slighter and more irregular development of the elastic fibers in the omentum which makes it impossible to apply it as closely to the intestine as the flaps from the peritoneum and mesentery.

von TAPPEINER

Frank Atresia of the Anus (Über Atresia Ani) *Monatschr f Geburtsh u Gynäk* 9 3 lxxviii 340
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

In concluding a report of two successfully operated cases Frank advises early operation. Postponing the operation a few days causes the children to lose weight and strength in cases with an internal fistula the danger of an ascending infection of the urinary tract is increased. On account of the danger of gangrene it is inadvisable to attempt drawing the blind pouch downward especially if the entire sigmoid is absent. It is better to perform a laparotomy and make an artificial anus.

ZIN XX

Barnes R. II A Method of Operating on Fistula Without Cutting Muscular Tissue *Proctology* 2 19 3 1 26
By Surg Gyn & Obst

The author believes that the usual operations for fistula are too mutilating and that cutting the sphincter muscle even at right angles will occasionally result in a case of incontinence. He believes that dissection and suture operations are open to serious objection because of working in a region that is always contaminated by infectious material. He condemns the indiscriminate and routine use of the probe as also the injection of fluids or semifluids for diagnosis.

The author describes a new method for operating upon fistula in which he does not cut the sphincters. He has used this method for the past two years.

An incision parallel to the external sphincter muscle and directly over the abscess cavity is made extending just through the skin. Through this incision all of the scar tissue of the fistulous tract is removed up to and including the internal opening care being taken to avoid all possible injury to normal tissue especially muscle. An incision is then made at the skin margin of the anal canal with its center crossed by an imaginary vertical line that passes through the internal opening. This incision is connected with the internal opening by dissecting a muco-cutaneous flap. Gauze drainage is placed in this submucous tract extending up to the internal opening and is kept there until the external wound has healed. The external wound is treated the same as if it were an acute abscess cavity. When it has healed there is left a submucous tract which can be incised under local anesthesia.

FLOYD B. RILEY

just below the pancreatic ducts and ending beyond the suspensory ligament. This portion was isolated from the remainder of the intestinal tract by tying a heavy ligature tightly at these two points and burying it under an inverted layer of the peritoneum after which a gastro-enterostomy was done. As dogs so treated died in from 36 to 72 hours the authors inferred that there developed in the closed loop a poisonous material the absorption of which caused death. Since the closed loop contained neither gastric secretion bile nor pancreatic juice the conclusion seemed inevitable that some alteration in the loop function was responsible for death.

A series of careful and well controlled experiments was then undertaken to study the nature and it possible to determine the source of the poison. The method employed was to produce the isolated loop collect the contents sterilize them by heating to 60° C filtering them and then after autolysis to inject them into a healthy dog intravenously subcutaneously or intraperitoneally. It was demonstrated in this way that dogs so injected died promptly. Further the authors were unable to isolate such a poisonous material from the normal intestine by any method of treatment and if the mucosa of the loop were first destroyed by a fluoride the poisons did not appear. Lastly some dogs died within a few days when the loop was drained externally there being an absorption directly from the mucosa and not from the lumen. The authors therefore believe that there is no escape from the conclusion that a poisonous substance is formed in this closed duodenal loop absorbed from it causing intoxication and death. Injection of this toxic substance into a normal dog produces intoxication and a reaction more intense than but similar to that developing in a closed loop dog. In substance they claim to have proved that a closed loop of intestine without undergoing any morphological change produces a toxic substance which is absorbed and causes death. Moreover they infer that a similar condition exists in simple intestinal obstruction and that here also death results from the absorption of this same poison.

Hartwell fails to find any evidence in the authors' experiments as published to justify these claims. On the contrary he believes that the protocols definitely show a damage to the intestinal wall and that the toxic substance they are dealing with arises from this source. In the absence of this damage no toxin is present except that produced by the loss of water in the vomitus. He submits a review of their protocols in support of this view.

A study of their cases clearly demonstrates that the length of life is in inverse ratio to the damage occurring in the intestine. All the animals were under practically identical conditions as far as the stage of the intestinal contents is concerned and if the poison arose from that source from functional changes the mucosa they should have

lived approximately the same length of time. A simple explanation is forthcoming for the varying damage to the intestine. When antiperistalsis is sufficient to empty the intestine toward the stomach no damage results. When this is absent the accumulated secretion distends the bowel until the circulation is obstructed and the damage results. The administration of saline subcutaneously exerts no influence either on the production of the poison under this condition its absorption or its elimination and the dogs sicken and die in spite of this treatment.

The author's experiments show that many other examples might be cited to show that in the absence of damage to the intestine no symptoms of poisoning arise provided the water lost by vomiting is replaced and in the presence of such damage no amount of saline will, to an appreciable extent affect the development of poisoning or prevent death. The conclusion seems inevitable that the only poison present in intestinal obstruction arises from the damage secondary to the obstruction and not from the stagnation of intestinal contents or an altered function of a normally appearing mucosa.

As final proof of Hartwell's position it is reported that by exercising great care in avoiding damage to the intestinal wall it is found possible to keep dogs with the closed loop alive for a comparatively long period.

The application of these facts to intestinal obstruction in man must be made with reserve. The human intestine is apparently incapable of withstanding the same amount of distention as a dog without damage and consequently a poisoned condition occurs earlier in man. However there are two important results of this experimental work. The need of large amounts of saline subcutaneously is proved and has been used by the author with advantage patients having readily absorbed three to six quarts in 4 hours. There is no necessity of draining out the intestinal contents unless the bowel is damaged. Simple stagnation does not yield a poisonous substance, and consequently the release of the obstruction by operation is sufficient. When however strangulation has begun the material above the obstruction should be removed and if extensive damage exists a continued drainage through an enterostomy may be needed. *GEOFFREY E. BENT*

Kahn, L. M. The Absence of the Sausage Shaped Tumor and the Mass per Rectum in Intussusception in Infants. *Med Rec* 1913, lxxv, 546. By Surg. Clin. & Obst.

This simply emphasizes the fact that in the early stages of intussusception, and even in some cases in the later stages, a tumor is not palpable. This tumor may be located beneath the spleen and be entirely covered by that organ. One should not delay simply because the sausage shaped tumor and mass per rectum are not to be found. X-ray may help in the diagnosis of the condition.

C. G. GARLEY

liver spleen and kidney In all cases the blood was drawn from the wound before the sewing on of the fascia because its presence hindered the healing of the fascia They resected parts of the organs covered the surfaces of the wounds with flaps of fascia fixed to the capsule with a few sutures and obtained prompt cessation of bleeding and complete healing Microscopic examination after thirty days showed complete preservation of the fascia normal tissue under it and no formation of connective tissue between only in the kidneys could they detect the zone of cortical necrosis described by Barth and partial necrosis of the kidney elements In other experiments perforating wounds of these organs were made and fascia flaps drawn through the wounds and sutured to the capsule on both sides with the same results

In a third series of experiments the kidneys were cut into several parts the wounds coming down into the kidney pelvis At the same time the kidney was decapsulated then wrapped in a flap of fascia that enclosed the whole organ Functional tests with indigo-carmin after period of from 15 to 40 days showed no difference between the normal kidney and the one operated on In two cases hyaline cylinders were found in the urine in the third in which the severest injury had been done there were no pathological findings in the urine on post mortem the fascia was found loosely adherent to the kidney enclosing it completely Only insignificant linear contractions were visible at the site of the wounds and when the kidney was cut through it was difficult to see the places where the wounds had been Microscopically there was no zone of cortical necrosis and the zone of partial necrosis was small

These splendid results in multiple wounds of the kidney attributed by the authors to the fact that by their method a liberal adaptation of the wounded surfaces is obtained and the tissue destroying sutures through the parenchyma of the organ are avoided The secondary contraction often observed in decapsulation of the kidney caused by the formation of a new connective tissue capsule has never occurred in their cases though they used the method once for a simple decapsulation Therefore they recommend it in cases of decapsulation They sum up their results as follows

1 Fascia placed on a bleeding wound surface acts as a living tampon

2 In free fascia transplantation for wounds of organ only a few superficial sutures need be used and ligatures inside the organ which injure the tissue severely are avoided

3 The transplantation of fascia does not cause any connective tissue proliferation in parenchymatous organs

4 The wrapping of a torn organ in a flap of fascia is the best substitute for suture and does not cause any atrophy of glandular tissue

5 The kidneys can recover from multiple wounds and function satisfactorily

6 The withdrawal of the blood from the wounds of parenchymatous organs is an important point for their recovery

7 Wrapping the decapsulated kidney in a flap of fascia prevents secondary contraction of the organ
RISSENLAUFER

Buckley P: True Total Enucleation of Two Hydatid Cysts from the Same Liver *Brit J Surg* 9 3 1 725

A girl age 13 presented an epigastric swelling slightly to the left A second tumor was located in the position of the right kidney At operation a tumor the size of a tennis ball was found in the left lobe of the liver and one a little smaller in the right lobe The right cyst with its capsule was removed entire The left was also removed in the same way except that the capsule was ruptured The right cavity was packed with gauze The left was closed with cat gut and a rubber drain put down to it Thirteen months later the child was in normal health The author states that what is usually called the capsule is really the ectocyst and derived from the cyst itself rather than the organ in which it lies He states the removal of the ectocyst in his opinion is not sufficient The ectocyst layer must be removed when possible without grave danger from hemorrhage
M S HE DEAROV

Erdmann J F Acute Pancreatitis *Ohio St J* 9 13 403 B S rg Gynec & Obst

The author considers at length the marked toxæmia which so often is an accompaniment of acute pancreatitis The theories as to its cause are many and no positive proof has been established as to which one is correct The anatomical arrangement of the ducts would point toward a backing up of the bile into the pancreatic ducts as a possible cause That this is an important point is seen from the number of gall tract conditions which are associated with pancreatitis and it has also been shown experimentally that injection of bile into the pancreatic ducts will produce an inflammation Cultures of bacteria act more markedly on the pancreas when they are given together with bile As to just what causes the toxæmia no one knows Culeke believes death in his necrosis experiments was due to an intoxication with trypsin Speece Sailer and Torrey believe the toxæmia is due to an increase of the globulin content of the blood

The pathology of acute pancreatitis may be classed as follows hæmorrhagic sloughing or gangrenous and purulent In the hæmorrhagic there is marked œdema and infiltration in the retrotransverse colæ The glands are swollen and tense and show up as blue black through the peritoneum Fat necrosis is evidenced by the yellowish white plaques scattered through the omentum and peritoneum These are due to the deposition of fatty acids obtained from the splitting of the fat into fatty acids and glycerin These fatty acids may later unite with calcium salt to form calcium soaps

Zobel A J: A Further Consideration of Sir Charles Bell's Operation for Internal Hemorrhoids. *Pract Surg* 1913; 135.
By Surg (Ymer & Ot)

The author reviews Bell's technique and remarks that he has followed very closely the work of many of the best operators in this country and abroad and is quite sure that adverse results obtained by them are due to their neglect to follow rigidly the technique described by Bell.

In order to prevent edema and eversion of mucous membrane which follows incision along the mucocutaneous line or the other extreme structure which may follow incision at the outer edge of the resolved cutaneous ring Bell commences his dissection at a point between the pectinate line and the outer edge of the cutaneous ring. The incision is curved around the base of the pile and its greatest convexity does not involve more than one third of the cutaneous ring while the ends terminate in mucous membrane at each side of the pile. The exactness of this incision is essential to success. Zobel follows the remaining steps of the Bell operation in detail except that he does not crush the base of the pile so heavily as was done in the original operation. The objections and their answers follow.

1. That the post-operative pain is greater than after the usual ligature or the clamp and cautery method. Zobel thinks that the use of fine strong linen thread instead of silk goes far toward preventing post-operative pain. If bellies that gentle and not unnecessary dilatation of the pharynx at the beginning of the operation is another element toward its prevention. In his own experience there was no pain to speak of.

2. That the duration of the healing period is not shortened because of the sloughing of the ligature from either the skin or pedicle before union takes place. In view of the wound to heal by granulation. The healing period in the author's own cases was shorter than after the other operations.

3. That there is a necessity for unusual watchfulness that all ligatures may be removed at the proper time. The author was careful to introduce the skin suture just in the edge of the slip and never experienced any trouble about the coming away of the ligature in the usual time.

4. That "failing to secure primary union" is frequently the main reason for removal. If Bell's technique is followed skin galls will not occur.

5. That no time is saved by this modification of the ligature operation. The author agrees with this statement and believes that in reality the time is somewhat longer than usual.

6. That there is danger of secondary hemorrhage from a early tearing off of the pedicle by traction. If the pile is not crushed so heavily as in the Bell technique and the ligature not left long and hanging out of the mouth to be pulled up there is no unusual danger of hemorrhage.

ILOYD B. RILEY

LIVER PANCREAS AND SPLEEN

Case J T: Röntgenoscopy of the Liver and Gall Stones. *J Am Med Ass* 1913; 1910.
By Surg (Ymer & Ot)

Contributory evidence of considerable value regarding hepatic lesions may be often obtained by the use of the X-ray. The upper border of the liver normally smooth and coincident with the shadow of the diaphragm may show nodules. The shadow of the inferior surface is ordinarily confused with that of the subjacent organs but may be emphasized by inflation of the stomach or colon. Signs of subphrenic abscess include (1) limited and painful diaphragmatic movement (2) high projection of the diaphragmatic contour (3) pulmonary involvement from infection or rupture and (4) if gas be present the appearance of the fluid level below it.

For a number of years it has been thought scarcely worth while to submit a patient with gall stones to a roentgen examination. This view was founded on the fact that the principal constituent of gall stones is cholesterol. In Case's last thorough digestive tract examinations however he identified gall stones radiologically in 45 cases—about 5 per cent. He compared this with W. J. Mayo's estimate of a 0.5 percentage frequency of gall stones in persons of all ages and a 1.8 percentage frequency in women over 50 and a 2 to 4 per cent frequency in men over 50. Case is of the opinion that gall stones may be more radiologically in 40 to 50 per cent of the cases in which they exist. He explains this by the grounds that radiological technique has very improved with regard to soft tissue details. pituitaries are made more often and more fully (as after the bismuth meal) screening is done more carefully and stones containing opaque material (pigment lime) more often than is supposed. Gall stone shadows must be differentiated from shadows due to calcareous lepositis in the costal cartilages (radioscopy), renal calculi and calcareous deposits in tuberculous kidneys (pyelography) and calcified mesenteric lymph nodes.

Contributory evidence of the presence of gall stones elicited after the bismuth meal includes hepatization of the stomach with displacement of the pylorus to the right and upward and a tender spot localized on the outer side of the duodenum. The demonstrability of Kehr's sign is also usually high positive in the hepatic flexure rapid emptying of the stomach manifestation of spasm of the stomach and aberrant esophagus of the stomach.

ALBERT M. L. A.

Waljaschik G A and Liebowitz W A A. The Treatment of Injuries of the Liver Spleen and Kidney. (*Ursache der Verletzung von Leber, Milz und Nieren*) *Reichsarchiv* 1913; 24, 989.
By Zentralblatt für Chirurgie (Königsberg).

In a series of experiments on dogs the authors used free fascial transplantation for injuries of the

SURGERY OF THE EXTREMITIES

DISEASES OF BONES JOINTS MUSCLES, ETC
GENERAL CONDITIONS COMMONLY
FOUND IN THE EXTREMITIES

Weiss A: Hypophysis Treatment of Rickets
(Zur Frage der Hypophysentherapie bei Rachitis)
Therap M naish Berl 19 3 xxvii 400
By Zentralbl f d ges Chir u i Grenzgeb

Histories are given of a series of cases of mild and severe rickets in children which improved markedly in the comparatively short time of from six to ten weeks on the administration of tablets of extract of the hypophysis
GEWERT

Hurwitz S H Osteitis Deformans Paget's
Disease B H Joh s H phis Hosp 1913 xiv
263 By Surg Gynec & Obst

This report by Hurwitz includes six cases of osteitis deformans. Three of these the author found in the records of over 30 000 medical admissions to the Johns Hopkins Hospital and three were recorded in the much larger number of admissions to the Johns Hopkins Hospital Dispensary. Although all of the six cases present essentially the features of the disease described by Paget the comparative rarity of the affection prompted the author to put them on record. Clinical records have been very thoroughly taken and recorded and they include careful measurements photographs and X rays. The subject is then discussed from various phases of pathology etiology and clinical signs and symptoms.

With reference to the etiology the author believes that the most interesting and stimulating view is that which regards osteitis deformans as a result of faulty metabolism due to a perversion of the internal secretions and he points to the fact that recent additions to our knowledge of the influence exerted by the hypophysis and the parathyroids in calcium metabolism should have called forth such views.

From the author's observation of these cases he believes that in the present state of our knowledge the assumption of a casual connection between the internal secretions and osteitis deformans is mere speculation but as certain authors have pointed out the metabolic processes in this disease are very little understood and it may be that accurate metabolic studies in osteitis deformans will help to solve the problem of its causation.

GEORGE E BEILA

Ely L W Diseases of Joint and Bone Marrow
Am J S g 19 3 xvii 335

By Surg Gyn & Obst

Continuing from a previous paper Ely classified chronic arthritis of the spine as one of the forms due to the same cause as in other joints. The pathology is an ossifying process involving the cartilage of the joint surfaces and of the ligaments. The

new bone formation may extend upon the ribs or encroach on the spinal canal. The symptomatology consists of pain stiffness and deformity either a long posterior curve or an obliteration of normal curves resulting in a poker back. A differential diagnosis from Pott's disease is sometimes important. In Pott's disease there is rarefaction instead of hypertrophy the lesion is more localized it is not often complicated by diseases of other joints and abscess is more frequent. Important points in treatment are the removal of the source of infection rest and protection.

Charcot's joint Ely regards this as primarily a lesion of the lymphoid marrow and synovia probably of luetic origin and refers to it as tabetic osteoarthropathy. The pathology consists of a low grade eroding inflammation localized to certain spots resulting in a joint filled with fluid in which float pieces of the killed bone. The joint becomes loose subluxated and wobbly and its characteristic histological structure is lost. The onset is a sudden occurrence of hard oedematous swelling without pain. Crepitation is obtained and distortions occur. The general neurological signs of tabes are present. Conservative treatment is best. Resection seems to be good for ankles but poor for knees.

Ankylosis in its modern meaning is joint stiffness. The term contracture should replace the term fibrous ankylosis. If any motion is present the ankylosis is not bony. Mobilization is not indicated and if there is an active process may do harm. Old tuberculous joints ankylosed in deformity should be carefully reduced and fixed in correct position. Wilder forms of fibrous ankylosis may yield to massage. Arthroplasty may be done for bony ankylosis. For this the interposition of autoplatic flaps of fascia is better than introduction of any foreign matter. Joint transplantation is at present on an experimental basis.

W A CLARK

Owen S A Syphilitic Diseases of Joints and Bones in Childhood Their Differential Diagnosis from the Medical Standpoint *Med Pres & Crc* 9 3 xc 38

By Surg Gyn & Obst

A very high percentage of congenitally syphilitic children give a strong positive Wassermann reaction so that a negative result is stronger evidence against congenital syphilis than a negative result obtained in cases of acquired syphilis in older persons. In infant under one year of age joint affections are rarely due to rheumatism. Some confusion may arise in atypical cases of infantile scurvy.

Scurvy is more likely to be symmetrical, and the physical signs point to a lesion of the shaft rather than of the joint. Spongy gums pseudoconjunctival hæmorrhages, epistaxis hæmaturia and

melæna do not occur in syphilis. More frequently the constitutional state in recent scurvy is good. In melanotic children especially those suffering from chronic enteritis oedema of the limbs can hardly be mistaken for a specific lesion. In such cases tetany is common. In rickets of older children hyperæsthesia, subjective pains, pseudoparesis and frequently an accumulation of fat occur together with the other classic signs of rickets. In cases of early poliomyelitis, the toneless flabby state of the muscles, the definite onset of the process and the loss of the deep reflexes will differentiate. True rheumatism in infancy is practically unknown. The co-existence of any evidence of myocarditis, endocarditis, pericarditis, and choreiform movements or nodules point to rheumatism. In purpura rheumatica there are pain swelling of the joints and an oedema of the limbs. In erythema nodosum the appearance of the rash may be preceded by pain in the limbs. In leukaemia especially the acute form joint swellings and oedema are noted and all of the superficial glands are enlarged. The blood shows a diminution in the red blood corpuscles, an enormous increase in the white blood corpuscles and in the lymphatic type a very great relative increase of the lymphocytes. Although gonorrhoeal ophthalmia is very common in infancy arthritis is quite infrequent. The swelling is apt to extend beyond the joint cavity. The joints of the knees and the wrists are most commonly involved. Cases of symmetrical synovitis rarely require differentiation. In hæmophilia there is a sudden effusion into the joints which occurs spontaneously as the result of injury. The family history usually clears up the diagnosis. Charcot's joint practically never occurs in children. The youngest patient seen by the author was a youth of sixteen. The classic signs are partial subluxation of the joint, severe repetitive hypertrophied synovial fold, a less normal outline, steady progression and absence of pain together with the general signs of tabes. Gout and rickets rarely require differentiation. L. BERGER, G. DY.

Bilings, F. Chronic Local Infection as a Cause of Factors in Chronic Arthritis. *J. Am. M. Ass.* 1933, 10, 89. By S. H. Gynec. & Obst.

Bilings reports the clinical research confirming his previously expressed views as to the etiology of arthritis. The focal disease was usually situated in the head. Most frequently this was a streptococcus infection in the faucial tonsil. Occasionally the cause was a chronic alveolar abscess or a chronic sinusitis due to streptococcus infection. In monoarticular osteoarthritides of the hip especially chronic hypertrophic prostatitis with residual urine, cholecystitis, and infection with the colon bacillus seemed to be etiological factors. Chronic gonorrhoeal and streptococcus infection of the seminal vesicles may also cause systemic infection and arthritis in particular.

The dominant organism found in abscesses and sealed crypts of the faucial tonsils were streptococcus

virdans and streptococcus hæmolyticus. Rosenow's experiments show that the same organisms may be changed by cultural methods so that in mediums they may show progressive phases of transmutation ranging from a type of streptococcus to the pneumococcus. At different stages of transmutation he has at will produced in the inoculated rabbit suppurative arthritis at another phase multiple proliferating arthritis, endocarditis, pericarditis and myocarditis at another phase myositis of the skeletal muscles at another phase a virulent type which produces arthritis with proliferative and degenerative joint lesions and at another phase typical pneumonia. These experiments probably clear up the difference in results and the varying types of streptococci described by many investigators.

The morbid anatomy of experimental chronic arthritis is the same as that found in man and is the specific reaction of the infectious organism.

Arthritis deformans may be differentiated from other types of chronic arthritis by the characteristic coincident involvement of periarticular and articular structures, chronic myositis, consequent contractions of muscles, secondary trophic changes due to a faulty metabolism, malnutrition, etc.

The treatment and management must comprise (1) Removal of the cause, (2) improvement of immunity by rest, personal hygiene, including good food, pure air and sunshine, rational calisthenics, and physical culture, moral support and cheerful environment. Autogenous vaccination may be added to still further improve immunity.

L. G. DW.

Davis, D. J. Chronic Streptococcus Arthritis. *J. Am. M. Ass.* 1933, 10, 74.

By S. H. Gynec. & Obst.

Streptococcus infection of joints is due to the mucous variety of the organism. Diplococcus rheumaticus is also prone to attack joints. These cases can be differentiated clinically and by the history from other forms of deforming arthritis. The more acute attacks resemble acute articular rheumatism in symptom but in contrast they do not yield to salicylates but are persistent and leave permanent joint changes. The pharyngeal ring is the most common entrance of the infection and a history of tonsillitis is of great value in establishing a diagnosis. Davis found a hæmolytic streptococcus in tonsils of thirty-eight out of forty cases of arthritis from which the tonsils were removed. The joint effusions examined from four cases showed no bacteria. Blood cultures made from ten cases were negative.

The organism found forms a moderately wide zone of hæmolysis on blood plates is slightly smaller and forms shorter chains than the other streptococci and although not highly virulent may produce arthritis when injected into animals in large doses.

The organisms may be recovered from the joint cavities of these animals early in the infection. Endocarditis results in about ten per cent. In

many of the cases studied complete cure resulted from extirpation of the tonsils. Treatment with autogenous vaccines is valuable. In one case a cure was effected by three doses in two weeks.

W A CLARK.

Magnus Experimental Investigations in regard to Purulent Arthritis and Secondary Symptoms (Experimentelle Untersuchungen über eitrige Arthritis u. d. Folgeerscheinungen.) *Zent. bl. f. Ch.* 93, xl, 1184.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Staphylococci of slight virulence were injected into the joints of rabbits and the animals killed at different times. The joints were preserved *in toto* and cut. The findings were as follows: Early and extensive necrosis of the articular cartilage sequestration of the cartilage or substitution of connective tissue followed by ankylosis, all stages of acute and chronic inflammation of the capsule going over into obliteration, contraction of the joints with extensive adaptation of the rough forms of the articulation ends as well as of the finer structure of the spongiosa to the new position of the joint. Injections of tincture of iodine into the infected joint had no therapeutic effect.

SCHULTZE.

Finslie R. C.: Physical Treatment of Joint Diseases Particularly Tuberculosis (Die physikalische Behandlung der Gelenkrankheiten, im besonderen der tuberkulösen Gelenkrankheiten.) *Zts. f. orthop. Ch.* 93, xxxi, 405.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The etiology and pathology of the joint affection should be determined before a course of treatment is decided upon. In the first place it must be determined whether there is an acute inflammation or whether reparative processes are going on. In non-tuberculous diseases the answer to this question determines whether the joint should be fixed or mobilized. The treatment possible in tuberculous diseases are the following: 1. Rest by removing the body weight and forced extension of the joint. 2. Fixation of the joint in a suitable position. The choice between the two treatments depends upon the nature of the joint affection. The author did not get good results from the ambulatory treatment of joint tuberculosis in polyclinic patients. Fifty-six per cent of them had suppuration and the resulting deformities were rather severe. Elimlin therefore believes in the hospital treatment of these cases.

HELI DOLLGER.

Dutton T. The Treatment of Tuberculous Joints by the Internal and External Use of Iodine. *Ill. d. Press. & Circ.* 9, 3, 348.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The author strongly condemns the use of tuberculin and the knife in the treatment of tuberculous joints although he admits that there have been some brilliant successes following this treatment.

He himself has been curing some after cases by the internal and external use of iodides with the

addition of a carefully constructed diet. Iodide of iron is given internally in large doses and a soluble iodide ointment is applied twice a day to the affected joint. The patients are advised to keep windows closed to avoid cold and damp air especially night air and to take every advantage of warm dry air and sunlight.

Two recent cases are cited. One was that of a young woman twenty-two years of age with tuberculosis of the right knee-joint. The treatment described above was begun March 12, 1912. By January 2, 1913 the leg was quite normal and the motion in the right knee-joint was as good as that in the left except when going up stairs.

The second case was tuberculosis of the wrist joint of a young girl fifteen years of age. The patient had had hospital care for four years. On July 17, 1912 the iodide treatment was begun and continued until a pustular rash came out over her forehead and face. By October 2 she had gained twelve pounds in weight and the motion in the wrist joint was fairly good.

R O RRRRZ.

Teuji H. Atrophy of the Muscles in Affections of the Joints (Über die Muskelatrophie bei Gelenkaffektionen.) *N. pp. gek. Gek. Zts. h.* 9, 3, 7.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The author caused inflammation of the knee joints in dogs by injecting into them 0.2 ccm. of oil of turpentine and at the same time flexing the knee-joints to about 120 degrees and fixing them in the flexed position with a nail. After from eight to nineteen days the animals were killed and the muscles of the lower extremities were carefully weighed. All of them were found to be more or less atrophied. Between the atrophy of the extensors and the flexors and the mono- and poly-articular muscles there was no gradual difference. Inflammations outside of the joint capsule and artificial immobilization of the joint may cause muscle atrophy to the same degree as affections within the joints. This atrophy of the muscle is believed to be a simple atrophy from activity without numerical increase in nuclei.

OTTM.

FRACTURES AND DISLOCATIONS

Hawley G. W. Spontaneous Fracture in Carcinoma of the Bone. *Am. J. Orth. Surg.* 1913.

By Surg. Gynec. & Obst.

The author reports three cases with seven fractures. In one case both femurs were fractured, in another a single fracture of the humerus occurred and in the third fractures of the femur, radius, clavicle and humerus took place over a period of three years. The disease of the bones in all the cases was secondary to carcinoma of the breast and in two of the cases a radical breast operation had been done without local recurrence. Post mortem examination was performed in one case with extensive dissection of the skeleton. Carcinoma metastasis was found in the bones.

The patient left ten weeks after operation. The skin wound healed promptly and a firm bony union resulted between the tibia and femur. He was advised to wear a full length leather stocking for six months.

SURGERY OF THE BONES JOINTS ETC

Freeman L. The External Bone Clamp Versus the Internal Bone Plate in the Operative Treatment of Fractures. *J Am Med Ass* 1913
1 93 By S R Gynec & Obst.

The ideal method of fixation would consist in the use of some material that would be absorbed rapidly and leave no foreign body to cause delayed union or late infection. No substance now in use answers all these requirements. At present the plate and the clamp are applied most often and in ununited fractures the autogenous bone graft is rapidly gaining ground. The internal bone plate and the external clamp are very similar, the only difference being that in one the part which unites them is outside of the skin and in the other it is beneath it. The external clamps have several screws long enough to project well beyond the skin when they are inserted into the bone. The external clamp is better than the internal plate because—

1. It can be more easily applied with less manipulation and the addition of the bone holes may be drilled and screws inserted with the fragment in its almost any position.

2. Nothing comes in contact with the line of fracture and the screws may be placed as far away from the break as desired. Martin says that as a rule the presence of a plate instead of stimulating osteogenesis between the broken bone ends, retards it.

3. Usually the external clamp will immobilize the fragments more firmly than the internal plate. The screws may be long because they will be removed later and the clamp may be healed as it lies out of the tissues. When a clamp is properly inserted say in a fracture of the tibia or the femur the limb may be picked up by the foot and thrown about in any direction without fear of disturbing the fracture. If a plate is employed this can seldom be done without danger of bending or breaking it or pulling the screws from the bone. The principal advantage of the external clamp is that it may be easily removed at any time without the use of a general or even a local anesthetic.

Internal plates are constantly being taken out because of their failure to hold the fragments or because of infection. Among the disadvantages urged against the external clamp are its size and weight. This objection is easily disposed of, however, because the large adhesive portion which insures security and strength lies outside where it is productive of neither inconvenience nor danger. The screws alone penetrate the tissues and they are often of no greater diameter than those of the internal plate. The most plausible objection

to the external clamp is the great danger of primary or secondary infection. If the operation is clean primary infection will not occur with either a clamp or a plate. If the operation is not clean neither will prevent infection. In favor of the clamp however it may be said that its great advantage lies in the fact that it may be removed without a second operation. If secondary infection occurs with the clamp it appears late, is trivial in amount and is confined strictly to the screw holes. Infection does not spread easily with either screws or sutures, because a granulating channel is soon formed which affords a protecting wall. In order to prove this point experiments were carried out by Fowler who inserted screws through the soft parts of the bones. He was able to demonstrate that the holes became lined with granulations in the course of three or four days. Secondary infection may be prevented largely by dressings and the application of alcohol or tincture of iodine.

In conclusion the author states that both plates and clamps are of value in the hands of skilled surgeons. The external clamp is especially indicated in connection with the shafts of long bones. Clamps should be employed in combined fractures in preference to plates where there is any danger that infection will result from the injury.

FREDERICK C. DYER

Groves, E. W. H. Experimental Observations on the Healing of Fractures and the Influence upon It of Various Operative Procedures. *Med Press & Circ* 1913 Nov 5/6
By S R Gynec & Obst.

In a series of experiments with animals, principally upon cats, it was found that mobility at the site of fracture is not essential to repair and that mobility and faulty fixation lead to excess of callus.

In cases where intramedullary pegs were used the callous condition was found intermediate between that of absolute fixation and that of free mobility. In cases where callus was stimulated by chemical excess of osseous tissue resulted. The degree of mobility determines whether there will be a false joint or a firm union. In these experiments, ossification was never begun under the periosteum but the bulk of callus was first laid down as cartilage.

As to the use of screws and plates in the fixation of bones, experience proves that within a few weeks, the majority of such plates become loose as the screws fall out into the soft tissues. This usually brings about serous effusion which breaks through the skin, becomes infected, causes abscesses and necessitates the removal of the foreign bodies. In order that a screw or pin should take a firm hold in the bone and not soon give way it must go through the whole thickness of the bone and be held by means of a nut or turned over and such fixation will remain permanently. The idea that plates and screws become loose and are extruded simply because they are foreign is not borne out by these experiments.

culst from the radiograph The main idea was that in the reduction of fractures less attention need be paid to the anatomical alignment of the fragments if the joint surfaces are in correct relation and the lines of weight bearing force functionally satisfactory Nature is wonderfully tolerant of fragments if she can maintain the functional joint surfaces Skinner showed how the lines of weight bearing force may be charted on the negative and the proper adaptation for instance of the astragalus to the tibia which was the secret of the correction of ankle fracture noted If the antero posterior X ray negative shows the astragalus centered under the tibia the prognosis as to functional result is more favorable than with any anatomical alignment of fragments With regard to the wrist the author's axiom was that the entire styloid process of the lower end of the radius is constantly distal to a line which touches the tip of the ulnar styloid and is at a right angle to the longitudinal axis of the radius It is the tilting back of the lower end of the radius that interferes with the function at the wrist and this can be overcome only by the full extension of the fragment and the consequent normal position of the articulating surface to its normal weight bearing position The proper reduction of the lower end of the fractured radius provides the correct charting which portends a good functional result

Haudek M: Central Dislocation of the Femur
(Luxation femoris centralis) *Wirkel Wchusch*
1913 XXV 1243

By Zeitalle d ges Chir u Grenzgeb

Isolated luxations of the femoral head are rare but Wörner had collected 41 cases from the literature in 1905 The mechanism is as follows In falls upon the trochanter or the feet either the pelvis or the femur may act as the fixed portion If it is the pelvis then the femoral head is driven again to the floor of the acetabulum cavity If the femur is fixed then the acetabulum is forcibly hooded over the head of the femur In the majority of such accidents fracture of the acetabulum does not occur and other forms of injury in this part of the body are much more common If the luxation is to take place the force must be directed toward the center of the acetabulum and in line with the long axis of the neck and head of the femur i e when the leg is midway between adduction and abduction The consistency of the bone is of importance In elderly people fracture of the neck of the femur are more common on account of the brittleness of the bone while in younger patients acetabular fractures are not so rare In many central dislocation of the femur can therefore occur when there is a fracture of the acetabulum and the femoral head passes through the fractured area But more commonly the dislocation is secondary and brought about by more prolonged pressure or traction upon the head of the femur after the acetabulum has been fractured The diagnostic features are a slight

shortening of the leg on outward rotation 1-3 cm elevation of the trochanter and the presence of a tumor above Poupert's ligament The treatment in recent cases consists in reduction by flexion and forcible adduction with a heavy pad on the inner side of the femur as a fulcrum This is followed by extension for at least six weeks If it is impossible to bring about reduction then extension alone must be tried The prognosis as to function is not good and even as to life the outlook is poor as 70 per cent died of the associated injuries The X ray shows that in most cases a new acetabulum forms about the dislocated head **RECAER**

Murphy J B Fixation of the Knee with Backward Luxation of the Tibia *Surg Clin N Y*
1914 19 3 11, No 4 By Surg Gynec & Obst

A man of 37 years was admitted on account of limited motion of left knee On Sept 14 1911 he was struck on the knee by a falling mass of earth weighing about 150 pounds It broke to pieces on striking the leg and inflicted a small superficial skin cut at the time He had slight pain in the leg at the time but the knee was not swollen He was in bed four or five days but at no time did he have any pain September 19th he got up on crutches After two or three days the knee began to swell and became very painful He did not have a chill preceding the swelling and no elevation of temperature He returned to bed because he could not walk on account of the pain The leg was put in a cast for two months from the ankle to the thigh He had some pain then but it was not severe Then a cast was applied including the whole body and it was left on for three months When removed February 1912 the knee was almost stiff and there was slight pain on movement and walking September 1912 the knee was manipulated under anesthesia After that he noticed that the lower leg was luxated backward Motion was not improved since that time he has had pain only on continued use and then only slight

On account of the uncertain diagnosis Murphy varied his usual incision A transverse one was made just below the patella and the patella split by double L incision as in *lengthening tendons* The condition proved to be tuberculosis hence a typical resection was done not an arthroplasty The patella and tuberculous capsule were removed and the ends of femur and tibia squared off with Hely's saw A slot was then made in the end of each bone and a phosphor bronze plate inserted to correct subluxation of tibia and to favor bony union After removing the patella the ends of the patellar ligament and quadriceps tendon were joined with chromic gut to aid in immobilizing the joint

One of the most important points in these cases of tuberculosis is immobilization The phosphor bronze plate prevents motion and immobilizes the joint better than anything else can Skin sutured with horsehair no drain Straight cast placed on for three to six weeks

The patient left ten weeks after operation. The skin wound healed promptly and a firm bony union resulted between the tibia and femur. He was advised to wear a full length leather stocking for six months.

SURGERY OF THE BONES, JOINTS, ETC.

Freeman L. *The External Bone Clamp Versus the Internal Bone Plate in the Operative Treatment of Fractures*. *J Am Med Ass* 1913 12 930. By Surg. (ynec & Obi.

The ideal method of fixation would consist in the use of some material that would be absorbed rapidly and leave no foreign body to cause delayed union or late infection. No substance now in use answers all these requirements. At present the plate and the clamp are applied most often and in ununited fractures the autogenous bone graft is rapidly gaining ground. The internal bone plate and the external clamp are very similar, the only difference being that in one the part which unites them is outside of the skin and in the other it is beneath it. The external clamps have several crews long enough to project well beyond the skin when they are inserted into the bone. The external clamp is better than the internal plate because—

1. It can be more easily applied with less manipulation and denudation of the bone holes may be drilled and screws inserted with the fragments in almost any position.

2. Nothing comes in contact with the line of fracture and the screws may be placed as far away from the break as desired. Martin says that as a rule the presence of a plate instead of stimulating osteogenesis between the broken bone ends retard it.

3. Usually the external clamp will immobilize the fragments more firmly than the internal plate. The screws may be long because they will be removed later and the clamp may be heavy as it lies out of the tissues. When a clamp is properly inserted say in a fracture of the tibia or the femur the limb may be picked up by the foot and thrown about in any direction without fear of disturbing the fracture. If a plate be employed this is seldom done without danger of bending or breaking it or pulling the screws from the bone. The principal advantage of the external clamp is that it may be easily removed at any time without the use of a general or even local anæsthetic.

Internal plates are constantly being taken out because of their failure to hold the fragments or because of infection. Among the disadvantages urged against the external clamp are its size and weight. This objection is easily disposed of, however, because the large and heavy portion, which insures security and strength lies outside where it is productive of neither inconvenience nor danger. The screws alone penetrate the tissues and they are often of no greater diameter than those of the internal plate. The most plausible objection

to the external clamp is the great danger of primary or secondary infection. If the operation is clean primary infection will not occur with either a clamp or a plate. If the operation is not clean neither will prevent infection. In favor of the clamp however it may be said that its great advantage lies in the fact that it may be removed without a second operation. If secondary infection occurs with the clamp it appears late is trivial in amount and is confined strictly to the screw holes. Infection does not spread easily with either screws or sutures because a granulating channel is soon formed which affords a protecting wall. In order to prove this point experiments were carried out by Fowler who inserted screws through the soft parts of the bones. He was able to demonstrate that the holes became lined with granulations in the course of three or four days. Secondary infection may be prevented largely by dressings and the application of alcohol or tincture of iodine.

In conclusion the author states that both plates and clamps are of value in the hands of skilled surgeons. The external clamp is especially indicated in connection with the shafts of long bones. Clamps should be employed in combined fractures in preference to plates where there is any danger that infection will result from the injury.

FREDERICK G DYAS

Groves, F W H. *Experimental Observations on the Repair of Fractures and the Influence upon It of Various Operative Procedures*. *J Med Press & Circ* 913 361 3 6. By Surg. Gynec & Obst.

In a series of experiments with animals principally upon cats it was found that mobility at the site of fracture is not essential to repair and that mobility and faulty fixation lead to excess of callus.

In cases where intramedullary pegs were used, the callous condition was found intermediate between that of absolute fixation and that of free mobility. In cases where callus was stimulated by chemicals excess of osseous tissue resulted. The degree of mobility determines whether there will be a false joint or a firm union. In these experiments, ossification was never begun under the periosteum but the bulk of callus was first laid down as cartilage.

As to the use of screws and plates in the fixation of bones experience proves that within a few weeks the majority of such plates become loose, the screws falling out into the soft tissues. This usually brings about serous effusion which breaks through the skin, becomes infected, causing a sinus and necessitates the removal of the foreign bodies. In order that a screw or pin should be a firm hold of the bone and not soon give way it must go through the whole thickness of the bone and be held by means of a nut or turned over end such fixation will remain permanently. The idea that plates and screws become loose and are extruded simply because they are foreign is not borne out by these experiments.

Methods of fracture fixation which do not involve direct exposure of the seat of injury give the most ideal results namely rapid union with minimum callus formation. In order to determine the rôle of the periosteum in the repair of fractures of the long bones a thin sheet of metal was placed beneath it. In a tibia examined twenty days after this procedure the formation of callus was well advanced beneath the plate and was extending from the ends of the plate under the periosteum. In studying the process of repair in comminuted fractures it was found that if the fragments were removed the periosteum restored to its original position and the ends of the main portions of the bone kept apart at their original distance repair occurred hardly at all or only very slowly. In a tibia 43 days after such treatment it was found that the union had been effected by fibrous tissue only and the little bone tissue growing from this started out from the bone ends and was not laid down from the periosteum. The results of these experiments are in complete accord with MacEwen's observations which show that the periosteum itself lays down no new bone but that the new formation occurs from the cut surface of the bone either from the main shaft or more rapidly from the separate fragments. The periosteum carries the vascular supply. When this is absent the callus receives nourishment only from the two ends of the area involved and not from the side. Repair therefore is slower and weaker than when the periosteum is in its normal position.

The conclusions drawn are summarized as follows:

1. Screws which merely bite into the side of the bone will rapidly loosen if a bone process of absorption if they are subjected to much tension.

2. All fractured ends are conducive to good repair.

3. The only way in which fractures can be firmly united by plates is by the use of pins, screws and nuts which perforate the whole thickness of the shaft.

4. Great mobility of the ends of a fractured bone is likely to produce a false joint especially in the case of a single bone such as the femur.

5. Marked mobility of the ends of a fractured bone causes a great excess of callus.

6. Metallic magnesium absorbed in a bone and causes great callus excess.

7. Indirect methods of fracture fixation give the most ideal results and these are the only methods possible when dealing with combined and comminuted cases.

8. The periosteum has no power to form callus or new bone.

9. The periosteum is of great value in serving as the chief vascular supply to the callus and in limiting its extent.

10. The callus and bone formation always occurs from the broken surface of the bone and a very small fragment acts as a center for new bone growth.

FREDERICK C. DYER

Hesse F. A. The Therapy of Congenital Defects of the Fibula with a Contribution to the Technique of Operations on the Epiphyses (Zur Therapie des kongenitalen Ibuladefektes zugleich ein Beitrag zur Kenntnis der Epiphysenoperation). *Deutsche Zeitschrift für Chirurgie* 1913, 478. By Zentralblatt für allgemeine Chirurgie und Grenzgebiete.

The author describes in detail the case of a nine-year-old boy with a congenital defect of the fibula. He believes that for the treatment of cases of this kind no definite rule can be laid down. The results of operative procedures it seems are not as good as those of conservative treatment for the degenerated and atrophied bones have but little tendency to heal after an operation. With conservative treatment there are hardly any failures. In early treatment increases the growth energy of the bones. If operative treatment is used the time that it should be begun varies for different cases. The main danger of operative treatment is that the epiphyseal line may be injured.

The author experimented to determine whether longitudinal splitting of the epiphyseal line according to the method of Bardenheuer interferes with growth. On account of the anatomical distribution of the vessels in young bones transverse operations always arrest development even though they do not hit the epiphyseal line directly. In most cases the experiments showed that strictly longitudinal splitting from the joint to the diaphysis if not too extensive neither retards nor incites growth but that if the splitting varies even slightly from the longitudinal direction a decrease in growth results. Therefore Bardenheuer's longitudinal splitting is very difficult and if the slightest mistake occurs resulting in the breaking off of a portion of the epiphysis it may be dangerous.

From these facts the author concludes that treatment should be conservative. In his own case a splint-encasing apparatus with a pes equinus position and massage were employed with good results. An extensive bibliography is appended. W. E. CHERY.

Von Tappeiner F. H. Transplantability of Epiphyseal and Joint Cartilage (Transplantation von fahrglied des I p physenknorpels und des Gelenknorpels). *Zeitschrift für allgemeine Chirurgie und Grenzgebiete* 1913, 49. By Zentralblatt für allgemeine Chirurgie und Grenzgebiete.

In transplantation bone regularly undergoes necrotization. Joint cartilage on the other hand survives both in autoplasmic and homoplasmic transplantations. The regeneration of the necrotic portion takes place by cellular substitution. There is migration of the preserved cartilage cells into the dead portion. The intermediary cartilage remains partly viable and retains the power of proliferating and growing in length but the parts which do not undergo necrosis are not sufficient to guarantee an even approximately normal longitudinal growth. Contrary to the above mentioned view of the author is the experience of Rehn who obtained much more favorable results in homo-

plastic transplantation of the intermediary cartilage. The epiphyseal cartilage remained almost entirely viable and the transplanted bone was not retarded in its growth.

In order to throw more light on these questions Tappeiner made his experiments on dogs, whereas rats or rabbits had been used previously. The distal half of the second metatarsal bone was used as a transplant. Healing without reaction occurred in autoplasmic as well as homoplastic transplantations. In autotransplantation the intermediary cartilage retains its vitality and does not lose its power of growth. In homotransplantation the intermediary cartilage transplant is not useful clinically. In all of the experiments there was shortening of the metatarsal bone. Tappeiner therefore confirms the opinions of earlier authors (Helfferich, Funderlen, Ahlhausen) and explains the divergent results of Rehn by the fact that he used only very small pieces of bone which are more rapidly permeated by the nutritive fluid of the mother substance. Many other questions are discussed in this work and exact protocols with histologic reproductions are appended. *V. L. R.*

Forbes, A. M. The Surgical Treatment of Metatarsal Rheumatoid Arthritis of the Hip. *J. F. M. J.* 1913, 23, 614.

By S. R. Gyner & Olat

The author in discussing the various treatments and describing an operation for excision of the femoral head states that this was one of the earliest modern treatments but was discarded because it was claimed that the operation was too shocking and that the neck afterward slipped out from the acetabulum and gave a condition similar to congenital dislocation of the hip. He says that neither objection is valid if the proper course is pursued. The author cites Baer's case and describes an instrument an evulsor which was used. Baer's operation is explained as follows:

He uses Brackett's incision from the anterior superior spine to the superior extremity of the great trochanter then down the external surface of the femur three inches. From the junction of these two incisions a third incision two inches long is made in a posterior direction the flaps are directed away from the deep fascia and the trochanter with the attached muscle is detached with a chisel. The soft parts are elevated by blunt dissection from all sides of the neck of the femur to the acetabulum. If an evulsor is then inserted between the soft parts and the periosteum until the capsule is perforated on all sides. The evulsors are also carried around the internal surface of the acetabulum detaching the capsule in all parts from the acetabular rim.

By means of manipulation with the evulsor as a lever the head is carried out of the acetabulum. An aneurism needle attached to a Gigli saw is inserted and carried around the anatomical neck of the femur and the anatomical head removed. All

osteophytes are removed from the rim of the acetabulum. All hemorrhage being controlled the neck is manipulated into the acetabulum and the trochanter is replaced in its normal position and held by means of a wire nail. The deep muscles are sutured as tightly as possible around the bone in order to maintain the neck in the position once held by the head. The limb is put up in plaster in marked abduction and is held in this position for at least six weeks.

JAMES O. WALLACE.

Stöckel A. and Stöckel E. New Point in regard to Tendon Transplantation (Neue Gesichtspunkte zum Gebiet der Sehnenverpflanzung). *Deutsche med. Wochenschr.* 1913, 39, 1080.

By Zentgraf, D. G. Ch. u. f. Grenzgeb.

Nikoladon's technique for the tendon transplantation takes too little account of the morphology and physiology of the muscle. In choosing a muscle for transplantation it is not enough to select one that lies as near as possible to the injured one and whose loss will not be noticeable but the transplanted muscle should correspond as nearly as possible to the one whose place it is to take in structure, origin and course. For instance the flexor hallucis longus should not be used to replace the extensor longus digitorum pedis or tibialis anticus by drawing it through the interosseous membrane because the tendency to the function of the muscle are caused by pulling it through the narrow aperture and deflecting it from its normal course. This deflection can only be partially obviated by detaching it from its origin and this itself is detrimental. In the case of the extensor hallucis longus or peroneus longus should be chosen. Since the course is similar to that of the muscle to be replaced so that only a slight displacement of the end of the tendon is necessary. The flexor hallucis longus has been carried over the surface of the tibia in the lead of pulling it through between the bones but in order to avoid the useless spiral twist of the belly of the muscle four fifths of its origin had to be severed. In this procedure the powerful action impossible the flexor hallucis longus should not be used to replace the tibialis anticus. In the case of the extensor hallucis longus should be chosen. From further examples given in the original article it is evident especially from their experimental work about 50 operations the authors find that it is necessary to keep the muscle in its physiological state. Normally the muscle under only slight tension only reacts a little when its tendon is cut. The slight contraction (tremor gliscens) is contractility. In transplantation therefore its normal length should be maintained.

For example substituting for the quadriceps the sartorius, biceps, semimembranosus or semitendinosus they should not be attached altogether to the patella but at different heights along the quadriceps corresponding to their varying lengths. It is absolutely wrong to try to correct an abnormal position of the injured part by increased tension on the transplanted muscle. The point should be

corrected by some suitable procedure before the transplantation and only the normal contractility of the muscle made use of. In correcting deformities of the feet the trouble cannot be overcome by the formation of an artificial ligament by transplanting the tendon of the tibialis anticus and fastening it as far toward the distal end of the peroneus of the tibia as possible. For the same reason stretched muscles should not be shortened by operation since they are thereby put in the same state of tension that caused the stretching. The muscle if left alone will soon adapt itself to the correct position of the limb especially if strong contraction by electricity is begun at once. For this purpose the authors attached to the nerve a thin metal wire which projected out of the wound and through the plaster cast and was attached several times a day to the cathode. It was left in position from ten to twelve days. In conclusion they call attention to the importance of testing the contractility of the transplanted muscle by means of the electric current. **MEYERS**

ORTHOPEDICS IN GENERAL

Berg, P. Madelung's Deformity of the Wrist Joint. Carpus Valgus (Die Madelung'sche Deformität des Handgelenkes, Carpus valgus). *A. H. f. th. p. Uebersicht*. *U. f. H.* 9 3 x, 375. By Le. trahit. I. d. ges. Ch. Grengsb.

In this paper Berg after consideration of the literature discusses Madelung's deformity of the wrist joint. Three new cases are reported one of which the author was able to keep under observation from its beginning to its complete development. The cases are made to conform to Madelung's classification and only those are included which arise spontaneously during the period of development without history of trauma or infection. The condition comes on gradually during a period of from one to two years. The author considers late rickets as the etiological factor in these cases. The point of origin is the epiphyseal line. All deformities of the radius occurring with the condition whether at the middle or lower third of the bone are to be looked upon as the results of muscular contractures. In conclusion the suggestion is made to apply the term carpus valgus to all deformities of this type at the wrist regardless of the etiology and to designate the classical Madelung's disease as carpus valgus.

R. HARDT

Bohm, M. Congenital Developmental Defects in the Skeleton of the Trunk (Die angeborenen Entwicklungshistologie der Rumpfskelette). *T. I. Teil*. C. 1. Med. J. 9 3 A.

Bj. Surg. Gynec. & Obst.

The author distinguishes five types of congenital developmental defects in the skeleton of the trunk: (1) curvature caused mechanically in utero; (2) actual malformation some of which are the result of secondary formations others of defect and still others of fusions; (3) variations (cranial rib

numerous variations etc.) (4) primary congenital asymmetry of the thorax and abdomen and (5) disturbances of the direction of growth upon a phylogenetic basis (pigeon and infundibular breast).

Whitbeck, B. H. The Importance of the Treatment of Weak Feet in Childhood. *Urd. Rev. Res.* 1913 xiv 539. *Bj. Surg. Gynec. & Obst.*

The proportion of weak feet among children is steadily on the increase as various statistics show. The economic value involved has never been considered in figures though it is thought the results would be astounding if worked out upon accurate lines.

The seriousness of flatfoot is fully appreciated by the military authorities and the examinations are very stringent on that point. Statistics are given showing the discharges and rejections from the United States Army and Navy as well as from those of the English and Japanese armies because of flatfoot.

The report of the Municipal Civil Service Commission of New York shows that in the last civil service examination for patrolmen 204 candidates out of 3,746 examined were rejected for flatfoot and 136 out of 2,820 candidates for the position of fireman were rejected for the same cause.

Of 2,059 boys at the De Witt Clinton High School New York City, 667 or 32 percent had weak feet and 260 or 12 percent had broken arches. In the elementary schools the percentage of flatfoot is said to be much higher though no exact figures are obtainable.

In the Orthopedic Department of the Hospital for Ruptured and Crippled of New York 8,020 patients were treated in one year. Of this number 210 suffered from flatfoot, 244 were under 14 years of age and 529 were between 14 and 21 years of age.

The causes enumerated as producing weak feet in children are: 1. Congenital conditions of general weakness or abnormal development. 2. Overweight of the body bringing undue strain upon the feet. 3. Prolonged illness or general malnutrition when the muscular power is greatly below normal. 4. Improper attitudes assumed by children either as the result of the other mentioned causes or through faulty education or badly constructed shoes.

The author's conclusions are:

1. Weak foot is the most disabling and wide spread of all postural deformities affecting all classes of society and occupations.

2. A decidedly large number of cases exist from early childhood.

3. As a result of various causes the feet assume faulty attitudes which though not necessarily causing disability in childhood are nevertheless powerful factors for harm in adult life.

4. The proper treatment of this condition in childhood is essential to the prevention of disability in adult life when interference with occupation is a serious matter.

CHARLES M. JACOBS

Sweeney M T. *Gymnastics for Crippled Children*. Am J Orth Su g 1913 2 N 1

By Surg Gynec & Obst

The author gives in general as well as in detail the methods and exercises used in cases of different types of deformity. She believes that the chief aim in the treatment of crippled children should be to adjust the child physically so that its vital resistance will be increased and its activities normalized. Also that individual exercises are better than those given in class form and that these special exercises under ideal conditions should be part of the daily routine of the school. Each child should have daily at least fifteen minutes concentrated effort directed toward its special need and carried out under the close supervision of a properly trained person. Besides localizing work on the special conditions present, efforts should be made to improve in general the chest capacity and thereby the circulation. While the main efforts may be directed toward active work, there are a certain number that cannot do active work. For these children there should be systematic supervised rest periods which are of the greatest importance.

The following condition are dealt with in detail and careful gymnastic prescriptions are given for each type of case.

Paralysis, obstetrical spastic infantile tubercular joints, old and active congenital dislocations of the hip, congenital abnormalities, malformations, rachitic deformities, knock knees, bowlegs, scoliosis

traumatic amputations, artificial joints, Lymphoma

Gymnastics in these cases will not cure. They will reduce the liability to disease by improving general tone of body but they cannot obliterate the conditions which are generally of a fixed type. Often as in the tubercular affections to improve the general condition is the direct way to eliminate the process. Therefore gymnastics may be largely influential in bringing about a cure.

In cases of paretic paralysis co-ordinative work should be combined with precision exercises. They should not undertake exercises that bring into contraction muscles already contracted.

In cases of infantile paralysis, the work is concentrated on the parts paralyzed as is also true in cases of obstetrical paralysis.

Patients whose joints show active tubercular processes are given supervised periods of rest. The old cases are given only such exercises as do not bring about motions in the affected region. The other deformities which are too complex to be properly covered by an abstract are taken up in detail. The apparatus needed is simple. A table, trapeze, benches, pulley, weight, dumb-bells, and a few weights are enough. The results are excellent, and at the end of three years the comparison of weights and measurements of these children shows marked increases besides producing on the whole a much healthier lot of children.

JAMES W REE SEVER.

SURGERY OF THE SPINAL COLUMN AND CORD

Eisberg C A. *Some Surgical Features of Injuries of the Spine with Special Reference to Spinal Fracture*. A S g Phil Ju 1906

By Surg Gynec & Obst

The author states that in his experience careful x-ray study shows in a large proportion of cases of apparently trifling spinal injury definite fissures or fractures of the spinous or transverse processes and he suggests the possibility of slight traumatism playing an important rôle in the etiology of spinal diseases. The rupture of spinal ligaments may also result from apparently trifling injuries. That such rupture can lead to protracted and serious symptoms is shown by a report of two cases operated upon.

In fractures of the spine Eisberg believes that immediate laminectomy is indicated in all of those cases which show incomplete cord symptoms. In the cases which have not been seen until late after the injury laminectomy is also indicated but in such cases the results are never so good as when the operation is performed before the cord has been permanently damaged by the hemorrhage and edema which immediately follow the injury. In those cases in which there is a complete transverse injury, operation does harm rather than good.

BARNET BROOKS

Schan A. *The Treatment of Scoliosis* (Die Behandlung der Skoliose). T F Internat Cong Med Lond 1913 4 g

By Surg Gynec & Obst

Congenital scoliosis is a deformity of the spinal column that occurs in post-fœtal life. The characteristic symptom-complex is the formation of a curve on one side of the spinal column with a compensatory curve on the other. The individual vertebrae become wedge or diagonal shaped. The long column shows signs of torsion. The scoliosis is the result of a disturbance of the static weight bearing ability of the spinal column which is characterized by an excess of the load imposed over the ability of the spine to hold it.

In the young scoliosis may be benign or malignant. The benign form heals or comes to a standstill with or without and in spite of treatment. The malignant scoliosis gets worse to a degree which may cause severe disfigurement. It interferes with the ability to work and even shortens the life. The causes of the benign form of scoliosis are usually physiological including disturbances of the strength of the vertebrae in early development, chlorosis, poor nourishment, etc. Malignant scoliosis is caused by a disturbance of the bones of the spine in most cases the so-called late rickets.

In the treatment of scoliosis two indications must be fulfilled (1) the indication of the cause (2) the indication of the finished deformity. The causes of benign scoliosis are so manifold that it is impossible to lay down a plan of treatment for all cases. After the deformity has occurred the indication is to restore the carrying power of the spinal column. For the purpose of taking the weight off of the spine the orthopedic apparatus is of value. Its chief danger consists in the fact that it may cause atrophy of the muscles resulting from inactivity which further lessens the strength of the spinal column. Attention should be given to the improvement of the general health and to local treatment by massage, electricity, etc. Gymnastics should be used with care. For the correction of the present deformities mechanical traction and pressure are aids. They may be used in the form of manual redressments. Gymnastics are of no use in correcting deformities. A plaster cast is a great help but it has the disadvantage that the strength of the spinal column suffers during its use. Any correction cure carries with it the danger that although the primary result may be good the deformity may recur later and the final end result may be much worse than the original deformity. Late rachitis is not a genuine rachitis. It is a disease of which the true nature is not yet known and in this fact lies the weakness of the entire therapy of scoliosis.

JANSEN has for some years made use of a plaster bed in a side position in which the principal curve—usually the dorsal curve—is made to rest upon a convex surface and to deflect to the other side.

The plaster bed in side position should complete the treatment by plaster jackets and gymnastics but not replace these methods. It has shown itself very useful for children. The little children are made to lie in it by day and night for some months and the older ones either only during the night or during the night and part of the day. F. G. DYAS

Ollerenshaw R. Sacrococcygeal Tumors. *A. S. J. Phila.* 1913 1 11 384

By Surg. Gynec. & Obst.

Ollerenshaw classifies congenital tumors peculiar to the sacrococcygeal region and taking their origin from the transitory organs of the caudal end of the embryo into four chief groups: (1) Caudal appendages (2) dermoid cysts (3) mixed tumors (teratomata) (4) fetal inclusions.

He reports an interesting case of the third variety wherein this growth was about the size of a child's head and prior to birth was thought by the mother to be a second fetal head.

The tumor was situated in the sacrococcygeal region, apparently separating the gluteal muscles of the two sides displacing the anus forward with out interfering with micturition or defecation. It was covered by tense skin and consisted of multilocular cysts and a solid portion. When the child was several weeks old the growth was successfully removed by excision. D. L. DESPARD

Iaw A. A.: Ventral Tumors of the Sacrum. *S. J. G. & O. B.* 1913 2 11 340

By Surg. Gynec. & Obst.

Embryological study of the caudal end of the spinal axis explains these growths. Early in embryonic life the entoderm forms the caudal intestine canal dorsalis and chorda dorsalis the mesoderm the connective tissue muscles, vertebrae and blood vessels and the ectoderm the primitive streak the medullary tube and its vestiges. The central canal of the spinal cord and the primitive alimentary canal are in communication through the so called neurontenic canal which is later obliterated.

When the proctodeum invaginates to form part of the cloacal chamber it meets the gut above the neurontenic canal. For a time a part of the gut remains behind the anus and is called the post anal gut. This also becomes obliterated later.

These misplaced tissue anlagen are susceptible to local disturbances of development and according to Middendorf to tumor formation. There are many theories as to the cause of these tumors. It is generally accepted that the simpler dermoids may arise from monogerminal tissue implantation. The more complex teratomas and mixed tumors however generally show evidences of all three fetal layers. Many observers believe the tumors are due to prohabitation of the remnants of the neurontenic canal the medullary canal and the hind gut in association with ectodermal and mesodermal inclusions. Many find it difficult to explain by the monogerminal theory some of the complex teratomas where an entire limb an eye a bronchus rudiments of vertebrae intestine or liver may be demonstrated. These tumors have given birth to the bigerminal theory according to which such a tumor represents an incomplete monostrousity or twin a parasite engrafted upon its autostite or host in fact a suppressed fetus.

The sacrococcygeal tumors vary greatly both individually and morphologically and show great diversity of tissue. They have been designated histological potpourri. A preponderance of one tissue may indicate from which fetal remnant the tumor originated. Practically all of these tumors are definitely encapsulated and arise usually from the pelvic connective tissue. They are on the border line of malignancy. Murphy calls attention to the fact that they often contain mammary and testicular tissue which is liable to malignant change and we have reports of the rare chorion epitheliomas in teratomas therefore their removal is indicated.

Reports of these tumors complicating pregnancy are very rare and in the literature the writer finds no case like the one which prompted his paper.

A girl of sixteen pregnant at full term had been in active labor for 24 hours. A pelvic tumor practically filled the true pelvis and mechanically prevented delivery. Accordingly a cesarean section was performed. The uterus was delivered through the abdominal wound before it was opened. An

as I tant by gra ping the blood vessels on either side prevented hemorrhage while the uterus was incised.

The child and placenta were removed. Then a the tumor was found to be intimately attached to the rectum, vagina and sacrum and as it could not be removed from above a panhy terectomy was performed. The mother made a normal recovery and the child died.

Five weeks later a Mayo-Kraeckling cure was made removing the sacrum and coccyx below the second lamina of the former. The main tumor and a smaller attached growth were shelled out with out difficulty or hemorrhage. The mother again made a normal recovery.

A detailed report of the tumor was made by H. R. Robert, an associate professor of pathology and bacteriology in the University of Minnesota. He concludes that nest of embryonic cell growing in syncytial like mass suggest malignancy; their manner of growth and appearance. Areas of hemorrhage, necrosis and cellular degeneration demonstrated the atypical character of the tissue its rapid development and imperfect blood supply. The smaller tumor suggested a neuroma in its general characteristics.

That the tumor sprang from some misplaced remnant of the terminal portions of the neural tube seems a logical conclusion. Portions of it developed as normal tissue of proliferation and showed signs of malignant change. Other portions in an imperfect manner reproduced the adult type of nerve tissue.

Murphy J. B. Post Sacral Derm. Id. S. 17

J. B. M. July 1911 N. Y. 4

By S. R. G. & A. O. W.

The patient a male (30 stated that two years before he had a small elevated erythematous mass in the skin to the left of the anus. It was very painful for two weeks when it ruptured and discharged a foul smelling pus. A sinus formed and afterwards it continued to discharge. It was operated on unsuccessfully in October 1911. The mass still discharging. In February 1913 he had another abscess at the buttocks and two more to the left of the anus. These abscesses too ruptured discharging a bloody pus. There was still a considerable discharge and the skin around the anus was excoriated.

In April a histological examination was made directly over the location of the dermoid sinus to one side of the fistula going through the skin superficially and deep fascia into the sac. The sac was lined by a granulation tissue. Carcinoma was not made out there was no other track leading from it.

The sac removed the wound was closed first with silk worm gut suture and then with the T-bar. This is one of the most unpleasant places in the antrum to get a healing because of the motion of the thigh. A rubber tube drain was placed from the upper angle of the wound down and out through

the lower angle. The usual alcohol dressing (5 per cent phenol) was applied.

The important factor in such cases is the differential diagnosis. Is it a hidradenoma and post-sacral inclusion of a remnant of the neurorhynchial are commonly treated by opening and drainage by curettement by cautery or by local neurectomy, etc. all of which are ineffectual. These cases are lined with epithelial cells and only a complete excision of the lining produces a cure. If any portion remains residual nodules are overlooked recurrence of the suppuration is inevitable. Post-neural cysts or dermoid are also of embryonic origin but occur in front of the sacrum and behind the rectum, and they require the same treatment.

Healing progressive better than was expected and the patient left in four weeks with the wound completely healed.

Murphy J. B. Laminectomy for Aneurismal

Sarcoma S. 17 J. B. M. July 1911 N. Y. 4

By J. R. G. & A. O. W.

The patient a male of 36 showed almost complete transverse paralysis, occurring suddenly with a history of pain. The skiagram showed a tumor 2 inches in diameter elevated on the right side of the spinal column. The patient died down into his limbs. There was a severe pressure on the lower arch of the vertebrae in some way situated anterior to the spinal column—that is, it had come through from in front.

An osteoma usually takes its origin in the bodies of the vertebrae. Osteoma in this location is not common and it rarely ever compresses the cord. When it does so the compression occurs very slowly not producing the symptoms noted in this case before many months or years. Then acute infection must be considered such as acute osteomyelitis with a granule or an abscess pressing back toward the spine. If this mass had been an abscess it would have shown in the skiagram an area of rarefaction and not solidification as it was showed. If the osteococcus cysts and actinomycetes also would have rarefaction. A bone lesion compressing enough to give a shadow as dense as this is found only occasionally in the metaphysis of the knee joint. The slow ossification increases that take place in the shaft of the long bones. The rarefaction there acts over a period of years. Of course this must have no history. The history of trauma would be nothing that would be near in that portion of the vertebra was indicated in the skiagram. Occasionally a tumor in this location causes an absorption of bone and all compresses the cord. An unusual sarcoma could develop a rapidly the condition did compress the cord but such a low incidence of rarefaction is not a characteristic. An aneurismal sarcoma should give a skiagraphic picture similar to that of an aneurism. At operation the growth protruded between the seventh and eighth dorsal

sions involved local shock. Nowadays it is accepted as a matter of course that apart from hæmorrhage and infection the effects of an injury such as the crushing of a foot are transmitted not by an invisible vibration through all tissues, but through the nervous system. To state this is not to give a theory of shock but merely to admit the basis from which any theory must start.

The following are some of the modes of sudden death referred to as shock, all are easily distinguished from shock as a state of depression: (1) Electric shock. Electric currents of high potential may throw the heart into fibrillation or paralyze the respiratory center. (2) Anaphylactic shock. Death from an injection of a foreign protein in a sensitized subject results from constriction of the bronchi stiffening of the myocardium or abolition of vascular tonus. (3) Shock from grief or fear. Simultaneous stimulation of all cardiac nerves may produce cardiac fibrillation and immediate death. (4) Chloroform shock. Mental excitement and physical suffering increase the secretion of adrenalin. Adrenalin plus light chloroform anesthesia produces cardiac fibrillation. Levy has proved that many fatalities have occurred in this way.

The following are some of the states of depression termed shock. For the gynecologist shock is *par excellence* the result of hæmorrhage. For some surgeons it is the state of depression following intense suffering even without loss of blood. For other surgeons it is a general depression following prolonged operations without considerable loss of blood or suffering. For some physiologists it is something akin to one or another of the foregoing. For other physiologists it is the condition induced by high section of the spinal cord. Among the foregoing there are probably at least three more or less distinct conditions.

According to the theory now prevalent shock is a state of vasomotor failure essentially a prolonged syncope. This idea originated in the celebrated Klopversuch of Goltz. On slapping a frog on the abdomen it was noted that the heart beat became feeble and the abdominal blood vessels relaxed. From this has come the explanation undoubtedly correct that syncope is reflex inhibition. Most modern investigators, particularly Crile have assumed a similar explanation for shock. However as a matter of fact such an explanation does not explain the failure of respiration the loss of tonus the reflexes in muscles atonicity of the intestine etc. which also occur in shock and explains the circulatory disturbance only partially. Crile found (and the experience of the writer verifies the fact) that in experiments on shock 90 per cent of the subjects die from failure of respiration while the circulation is still in fair condition.

Chemical cases and animal experiments carried out by the writer show that intense suffering causes excessive respiration and may be followed by failure of respiration from apænia. Experiments were quoted in which the atonicity of the intestines and

the tympanites following exposure and handling were overcome by means of CO_2 . A form of shock identical in many respects with that seen clinically may be induced by apænia. However it is not claimed that this is by any means the only condition that leads to clinical shock.

The fundamental error in most modern discussions of shock lies in confusing it with the vasomotor and other functional depressions seen in the purely experimental spinal shock induced by high section of the cord. In reality as the writer's experiments show the failure of the circulation in surgical shock usually is essentially like that after extensive hæmorrhage and unlike a prolonged syncope or vasomotor failure. Present knowledge indicates that shock as seen clinically depends upon a decreased blood volume. Solution of the pathological and surgical problems of shock requires first the solution of the as yet ill defined physiological problem. What are the conditions which normally regulate the distribution of fluid between the blood and the tissues?

Broca A. *Surgery of Childhood* (Chirurgie Infantile) Paris G. Steinhel, 1913.

By Journal de Chirurgie.

This book presents the results of twenty years practice of surgery first at the old Trousseau Hospital and later at the Hospital for Sick Children which indicates an extremely abundant material. Through out his career Broca had in view the double purpose of being a surgeon and an educator. He is fitted for his work as a teacher which was always of supreme interest to him by the clearness of his mind the precision of his language his great learning and rare general culture.

All these qualities show in the book in which he has brought together all that he has learned in his practice for the benefit of students and surgeons. The whole field of children's surgery is presented. Diagnosis and treatment hold first place but they would be mere empty formulas if not based on a knowledge of pathogenesis and pathological anatomy and on laboratory study which is of so much importance in medicine to day. The author has made use of all these branches of pathology in his treatment so that the book is a complete treatise on the surgical pathology of childhood.

Diseases of the bones and joints of course take first rank as they are the most characteristic conditions in this special pathology. They take up almost two thirds of the volume. The rest is devoted to a study of the diseases of the different organic systems and regions. All the surgical diseases peculiar to childhood and those which, though not peculiar to that period, present special features in childhood are described.

The illustrations are of prime importance in a book on surgery which is an objective science and in a book designed for teaching and the author has given his attention to this feature and in a characteristic personal way. There are no plates no repro-

ductions of photographs or radiographs nothing but diagrammatic sketches which the author says may be as exact and much clearer than a photograph and as they are so much cheaper to reproduce they may be used to any extent. The abundance of the illustrations in this work proves this to be true and they have the merit of being derived almost entirely from the author's own practice.

A detailed analysis of a work of this sort is not possible. It is sufficient to say that it is the most complete and original treatise we have on the surgery of childhood.

LINCOLN

SERA VACCINES, AND FERMENTS

Shatruck G C and Whittemore W S: Gonococcus Vaccines and Glycerine Extracts of the Gonococcus in the Diagnosis of Gonorrheal Infections. *B Am M S S* 1913 *Class* 373.
By Surg. Cyneec. & Obst.

The authors discuss the question of the specificity of the gonococcus vaccines and glycerine extracts in detail. They have carried out a series of experiments on a limited number of patients, the results of which are tabulated. The first vaccine used was prepared from nine strains of bacteria which had been grown on artificial media for several months the second from fresh cultures. Both vaccines acted differently when given intradermally. In all cases the first vaccine reacted positively after it was a week old. Forty-six cases were tested by this method. The local reactions appeared in all gonorrheal and in nearly all non gonorrheal cases. In eight gonorrheal and two non gonorrheal cases there were signs suggesting a general reaction. A focal reaction was observed in one case only the diagnosis in this instance being gonorrheal arthritis. The results are attributed to autolyses.

It is stated that when a vaccine has undergone autolysis to an unknown degree when changes in it may still be taking place and when perhaps the peculiar proteins of the original organism may have been destroyed or modified the results of the diagnostic tests and of treatment by such a vaccine may well prove unreliable and if a specific reaction should occur it may be masked by the effects of irritating or non-specific toxic products of disintegration of the bacteria.

These suggestions indicate that more knowledge is needed in regard to the changes that take place in gonococcus vaccine and raise the hope that more satisfactory results may follow improved methods of preparing the vaccine.

The authors tested the same vaccine by the von Pirquet method but did not obtain satisfactory results. Glycerine extracts and a control were then prepared and inoculations made by the von Pirquet method. Forty-eight cases were tested. The results obtained were somewhat better but not satisfactory. The conclusions drawn were as follows:

1. The concentrated vaccine showed no superior

2. In gonorrheal and in control cases it produced a local lesion like that of a chemical irritant. Autolysis may have been a factor in producing the supposedly irritating properties of this vaccine. The changes in the vaccine may have prevented it from producing a specific reaction and the unsatisfactory therapeutic effects of gonococcus vaccine may perhaps be traceable to autolysis.

3. Glycerine extracts of the gonococcus inoculated by the method of von Pirquet caused, in a few cases, the formation of peculiar papules which may have represented a specific reaction. Most of the cases showed no definite reaction.

EDWARD L. CORTELL.

Komarovskiy M: Treatment of Gonorrheal Affections with Gonococcus Vaccine (Zur Frage der Behandlung gonorrhöischer Erkrankungen mit Gonokokkenvaccine). *Therap. Rundschau*, 1913, VI 437. By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The author obtained good results from vaccine treatment in a case of vulvovaginitis in gonorrhea of the epididymus joints prostatic and Cowper's glands. In chronic gonorrhea the treatment was utterly ineffective. The gonococci never disappeared after pure vaccine therapy but local treatment was also necessary in order to get rid of them entirely.

VON SCHLIER

BLOOD AND LYMPH VESSELS

Tscherni chowski E: Suturing the Vessels in the Treatment of Aneurysm (Zur von Frage der Anwendung der Gefäßnaht bei der Behandlung der Aneurysmen). *Deutsche Zeitschr. f. Chir.* 1913, LXXIV.
By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

A description and criticism of the different operations for aneurysm show that all the old methods completely cut off circulation in the region and cause gangrene in 12.2 per cent of the cases or even if the collateral circulation is free enough to prevent gangrene there are later disturbances in nutrition such as atrophy and ischemia. Frisch in the examination of ten cases after one to eight years found only four that were entirely well. Hunter's ligation of the chief tributary vessels above the aneurysm gives the worst results since it cuts off the greater part of the collateral circulation, the preservation of which is so important in such operations. The statistics for gangrene vary from 10.2 to 19.3 per cent.

The result of the older Antyllus operation which consists in tamponing the sac of the aneurysm, is better as is also the record of the Matas obliterating operation, in which the tributary vessels are closed by sutures from within the aneurysm and the sac itself is obliterated by buried sutures. This operation is improved upon, however by his other two operations, the restorative and the "reconstructive." The first of these consists in the suture of the lumen of the vessel from the opened aneurysm in the second the sac walls are sutured over a catheter.

which is removed after the lumen of the vessel is restored. Both operations are intended to keep the lumen of vessels patent and reduce the danger of necrosis to a minimum but the presence of the diseased vessel wall tends to bring about recurrences. The lateral suture which has recently been much used is practically the same only that the aneurismal sac is extirpated. Both operations are suited for arterio-venous aneurisms and especially for sacculated aneurisms with a small slit like opening.

The author has found 31 cases of lateral suture in the literature: 11 in arterial and 20 in arterio-venous aneurism. In two cases there was gangrene but from causes for which the operation could not be blamed—arterio-sclerosis and gaseous phlegmon. Death was not due directly to the operation in any case and there were no recurrences. The ideal operation is Lexer's method of circular suture of the vessel with resection of the diseased portion. Of the three methods of uniting the vessel Murphy's, Payr's and Carrel-Stich's the author prefers the latter. He has used it twenty-five times on animals with success in 72 per cent of the cases and he also used it successfully on a human subject in the case of a man with arterio-venous aneurism caused by a shot in the thigh which case is reported in detail in the original article.

Tscherniachowski prefers the continuous circular suture and uses a forceps of his own with a controllable screw arrangement. The danger of recurrence is slight as Sofotow has found that the pressure in the sutured vessels is 180–190 mm. The success of the suture depends on the technique which is not at all simple and the most careful asepsis. In 13 cases from the literature 6 of arterio-venous and 7 of arterial aneurism there was no case of gangrene. Death occurred in one case, and patency of the lumen in 53.8 per cent of the cases. Autoplastic transplantation of veins can be done only where there are large defects to be supplied but its value has not yet been decided upon. Heteroplastic transplantation is never successful. If an attempt at vessel suture would endanger the life of the patient or it is not possible for technical reasons the best procedure is Matas' obliterating operation. The older method of ligating the vessel and extirpating the aneurism are to be used only in smaller vessels the ligation of which does not injure the nutrition of the part.

Surveys

Nasrroff W. M. Injuries of the Thoracic Duct in Operation on the Left Supraclavicular Region (Über Verletzungen des Ductus thoracicus bei Operationen in der Region supraclavicularis sinistra). *Arch. d. Chir. Klin. Prof. W. A. Oppel, Med. Akad. St. Petersburg*. 933, 1. By Zentralbl. f. d. ges. Chir. Grenzgeb.

The author deals with secondary injuries in operations at the base of the neck. In the case of a woman thirty-three years of age who was operated for a metastasis in the glands following amputation of the breast the thoracic duct was injured in clean

ing out the left supraclavicular fossa. This injury was not noticed at first but was later evidenced by the flow of chyle. A milky fluid could be seen flowing from a small opening at the apex of the somewhat dilated healing wound. The opening was cauterized, the wound tamponed and after three weeks the fistula closed and the wound healed. The author further tabulates sixty-two cases reported in the literature making a total of sixty-three cases. The injury occurred during the extirpation of tuberculous cervical glands twenty-four times, of carcinomatous glands twenty times, of sarcomata and lymphomata eleven times, of malignant strumas three times, of aneurysms of the left subclavian artery once, of leukemic glands once, of hemorrhagic cyst of the neck once and in operations for traumatic injuries of the neck twice. Seventy per cent therefore occurred during gland extirpations. In general prognosis is good and healing finally occurs after prolonged chylorrhoea. Tamponade and ligation must be considered in the treatment. The latter leads to a cure the more rapidly. Suture to or transplantation into a vein after complete division of the duct must be mentioned. Deapresh (Lancet 1903) reported a successful cure. SCHLACK

SURGICAL THERAPEUTICS

Hahl C. The Influence of Pituitrin upon Blood Pressure after Haemorrhage (Der Einfluss des Pituitrins auf den Blutdruck nach Blutungen). *Festschrift zum 50. Geburtstag des Herrn Prof. Dr. H. Hahl*. Leipzig, 1913. 14, 218. By Zentralbl. f. d. ges. Chir. Geburtsh. u. d. Grenzgeb.

On the basis of 23 observed cases the author comes to the conclusion that an intramuscular injection of 0.5 to 1.0 ccm of hypophyseal extract cannot increase the blood pressure of a woman who has lost an average of 1,200 ccm during a confinement. A rapid increase however occurs if in addition normal saline infusion—here in the form of enemas—replaces the decreased fluid in the vascular system.

Björck-Hein

Caspary 1. Physico-Chemical Treatment of Cancer. 2. Vaccine and Serum Treatment of Cancer (Die Anwendung des physikalisch-chemischen Behandlungsmittels von Vaccinationen und Serumtherapie der Geschwülste). *Med. chen. med. li. chuschr.* 933, 1. 907. By Zentralbl. f. d. ges. Chir. Geburtsh. u. d. Grenzgeb.

At the International Conference for Cancer Research in Brussels in 1913 Caspary of Berlin discussed the use of physico-chemical means in the treatment of cancer. He claims that they may either cause an increase in the autolytic ferments of the body or limit the exuberant growth of the tumor and that the first is a local effect the latter a general one. The latter he says is to be preferred and its use is justified even in operable tumors but there is the danger however that the tumor mass may be rendered fluid and the organism injured by absorption of it unless as in the case of cancer of

the uterus it can be discharged externally. He further states that since metastases cannot be affected by radiation other internal remedies must be used for their destruction and that with chemical means alone no decisive cures have been obtained so they should always be used in conjunction with radium treatment.

In the discussion that followed, Ray et al. recommended radium treatment for external tumors except on the tongue, the penis, the parotid gland and the abdomen. Freund of Vienna discussed the difference in serum of normal blood and that of cancer patients. The first destroys cancer cells, the latter does not and it even contains an albumin body that protects the cancer and furthers its excessive growth. It arises from catabolic processes in the intestine of cancer patients. Immunization however cannot be attained by its use at least in horses. Wermer of Heidelberg did not believe physical therapy was of great importance; he recommended radium treatment only for superficial epitheliomas, for sarcomas he preferred röntgen rays. The rest of the participants in the discussion were almost all convinced of the value of treatment by radium but an exact judgment as to its value cannot be pronounced.

Oler Genf and Coley of New York had used injections of streptococci in metastases; the latter with good result. Matsapan of Brussels regarded the injection of streptococcus toxin as a valuable adjunct to other methods of treatment. Wilzel of Düsseldorf believed injections of toxins and chemical means should be used in conjunction with operative treatment. Pinkus of Berlin treated three patients with an autogenous vaccine. One of the patients is still living but has a recurrence. Blumenthal of Berlin and Dael of Ghent had good results from vaccination with serum from the same kind of tumor from other patients and yet better with serum from the patient's own tumor. To avoid transmission of bacteria he kept the material standing in the incubator for from two to three days.

UOEWICATL

ELECTROLOGY

Asgaard V: A Method for Removing the Discoloration from Stained Röntgenograms
Am. Quart. Radiol. vol. 1913. 2
By Surg. Gynec. & Obst.

This is a valuable point in technique for the method does not soften nor reduce the density of the negative. The formula consists of two solutions. Solution A: One ounce of saturated solution of potassium permanganate in eight ounces of water. Solution B: One ounce of potassium metabisulphate in eight ounces of water.

After thoroughly washing the negative and while it is still moist immerse the plate in Solution A for four or five minutes agitating the solution constantly by rocking the tray. Then remove the plate and rinse it well. On removing the plate and rinsing it

it will be found stained the characteristic color of permanganate but after being left in Solution B from two to three minutes and again rinsed, it will be found perfectly clear. It is very important that the surface of the plate after being removed from Solution A should be rubbed with a tuft of cotton dipped in water before it is placed in Solution B, to be sure that all the chemicals are removed from the film otherwise some stain may be left.

G. F. FRANKS

Pirie A. H.: A Sliding Diaphragm for Improving the Quality of Skiagraphs. *Am. Quart. Radiol.* vol. 1913. 18
By Surg. Gynec. & Obst.

The importance of diaphragming in röntgenography is well established. Pirie's moving diaphragm enables the röntgenologist to cover large areas and still retain the effect of a small diaphragm.

The principle consists in moving a rectangular diaphragm over the top of another rectangular diaphragm each being placed at right angles to the other.

He does not describe the details of his construction nor of the motive power but in the article he gives a diagram illustrating the principle.

G. F. FRANKS

Cabot S.: An Analysis of the Various Forms of Energy Supply for the Generation of X-Rays
Am. Quart. Radiol. 1913. 2
By Surg. Gynec. & Obst.

Cabot explains the advantages in röntgenography of röntgenoscopy and röntgentherapy of using his apparatus which is capable of giving predetermined and unfluctuating voltage for the energy supply to Röntgen tubes. His paper consists mainly of a re-statement of current theories in a more intelligible way together with the presentation of certain original theories of his own.

During the past three years he has made quantitative measurements of electrical energy supplied by various forms of X-ray apparatus and has analyzed the qualities and quantities of the rays produced. The results of this work seem to offer an explanation of the reason why different forms of X-ray apparatus give different results with the same tube and why some are specially suitable for a given purpose.

The measure of quality used in Cabot's experiments was the Renost penetrometer. Besides the usual form of X-ray generating apparatus, such as coils and transformers the author has constructed an apparatus which has the ability to maintain an unfluctuating voltage on the tube terminals.

During the past two years quantitative measurements have been made at the Massachusetts General Hospital by Dodd. The results of these measurements were as follows:

1. Confirmation of Thompson's law. Each unit of thickness penetrated absorbs a fixed percentage of the energy transmitted to it and this percentage is dependent upon the penetration of the ray and the nature of the absorbing medium.

2 The thickness of dissipating medium penetrated rays which absorbed a fixed percentage of energy of X light was found to be directly proportional to the voltage maintained on the tube terminals

3 If tungsten or platinum targets are used the voltage maintained on the tube terminals may be read from the Benoist gauge Thus 3 Benoist was produced by 30 000 volts 5 Benoist by 50 000 etc

4 The absorption of energy at the various degrees of penetration in common use as it penetrated tissue was measured and a set of curves prepared showing graphically the distribution of energy absorption

It is hoped that by means of these curves more accurate knowledge will be obtained of the dosage reaching a diseased part located below the surface of the skin in therapeutic work as well as in roentgenography and roentgenoscopy The curves were plotted on data obtained by watching areas on photographic plates which were equally darkened by exposure This method has a possible error of 50 per cent It is proposed to check them by an electrometer

When a tube is actuated by a transformer it emits rays of all degrees of penetration The relative proportion in which rays of the different penetrations are mixed is determined by the resistance characteristics of the tube which change from day to day Current is flowing through the tube about two thirds of the total time and the maximum value is about two to three times that indicated by the milliammeter In cases in which a tube is energized by an induction coil we have also a mixture of penetrations supplying energy to the tubes in pulses of very great intensity These pulses are separated from each other by relatively long intervals of time The maximum current in the tube is ten to fifty times that shown on the milliammeter For this reason the same tube banks up a much greater voltage than it does on a transformer The resultant penetration produced with a given number of milliamperes will therefore always be greater with a coil than with a transformer

If a tube is energized by a machine giving unfluctuating voltages the registered current is the maximum current amplitude

The results of the analytical work were as follows
Röntgenography The apparatus should be able to maintain voltages from 30 000 to 80 000 as desired and be able to dissipate 10 kw of energy in the tube It should have a quick acting kilovolt meter and milliammeter

Table of tube voltages 30-35 kv for hand and chest roentgenographs on thin subjects 35-40 kv for general work on small parts giving great contrast 40-45 kv for bone work in parts less than two inches thick for chest work in 100 pound patients and for general tissue detail using intensifying screens 45-50 kv for bone work of extremities and chests of 150 pound patients 50-60 kv for kidney and bismuth work in light subjects also for extremities 60-70 kv same as above in heavier

patients 70-80 kv for hips frontal sinuses, and bismuth work plates show considerable loss of contrast

The most important factor in getting the best results is to know accurately the penetration during the exposure With Cabot's apparatus this can be determined by meter which is much simpler than by any other known method Cabot's apparatus is in the nature of a direct current rotary converter having a variable ratio of transformation transforming 220 volts direct or alternating current to high potential direct current having a fluctuation of 1 1/2 per cent This high potential can be adjusted at will from 30 to 100 kv and is capable of supplying energy to the tube up to a rate of 15 kw

Röntgenoscopy Cabot's apparatus is so flexible that it is readily possible to use the same tube for roentgenoscopy and at any instant excite the tube sufficiently for roentgenography

Röntgenotherapy This branch of Röntgen work has been very much held back by lack of scientific means of knowing recording and reproducing the exact dosage especially in deep seated lesions Ability to maintain non fluctuating voltage promises to do away with this uncertainty Already it has become possible to state the Sabroreud pastille doses in figures 1 e 3 400 milliamperes seconds at 10 penetration Benoist 4

To get as good results in deep therapy as we have in superficial it is only necessary for the tube maker to design a tube of higher puncturing voltage and proper resistance characteristics and for the electrical engineer to supply a proper source of energy to actuate this tube Cabot's apparatus gives promise of fulfilling the latter condition

A H HOLDRING

Opitz, F: Supplements to the X Ray Treatment of Malignant Tumors (Randbemerkungen über Unterstutzung und Ersatz der Strahlenbehandlung bosartiger Geschwülste) St. M. 1913
5 By Zentralblatt für das Chir. u. Grenzgeb.

That better results are obtained by combining several forms of treatment neither one of which may be sufficient in itself is Opitz's belief So in the treatment of inoperable carcinomata he gave potassium iodide internally and powdered calomel over the ulcerating edges which had been scraped out with a sharp curette This combined treatment prevented hemorrhage and suppuration for a long time Internal administration of cholin caused temporary cessation of growth Experiments with combined cholin and X ray treatment have not yet been finished It has been observed that lymph glands make carcinomatous cells inactive and that cancerous foci are surrounded by a zone of lymphocytes It would therefore seem desirable to create an artificial local or general lymphocytosis If a lack of salts in the diet favors the proliferation of epithelial cells the addition of silicates calcium or other salts would deserve consideration in the treatment of carcinoma The author has given up at

tempts at serum treatment because twice he had serious results from anaphylactic shock

FRANCISHEIM

Klenböck R. Radiotherapy of Malignant Diseases *T. J. Soc. of Med. Lond.* 9, 3 Aug. By Surg. Gynec. & Obst.

The ideal method of treating tumors is to destroy the pathological cells without producing injurious effects upon the neighboring healthy tissues and without causing harm to the organism. This end may be attained by the use of the roentgen ray and other similar rays because of the exceeding sensitiveness of pathological cells (selective action).

Röntgen and radium rays can remove malignant tumors even very large ones provided these tumors are very radio-sensitive. Countless cases of permanent cure have been recorded. If a tumor disappears quickly under the influence of irradiation it is not likely to recur.

When surgical or radiotherapeutic methods offer the same chance of cure in a given case the latter should be preferred on humanitarian and cosmetic grounds. The prospect of permanent cure following operation for carcinoma is not any too great even when the tumor is considered quite operable. Czerny says three fourths of the operated cases recur.

The greatest progress in the technique of roentgenotherapy has been made through the work of Lethers and Deauver and their followers. It is especially important to filter the roentgen rays through thick aluminum in the treatment of deep-seated tumors, particularly when the skin is beginning to show sensitiveness. Reicher and Lenz make a great advance by producing anemia of the skin with adrenalin making it much less sensitive to the rays.

Lately it has been frequently stated that harm may result from roentgenotherapy of malignant tumors unless a proper technique is followed. It has been believed that small roentgen doses stimulate the growth of the tumor. In reality however with a proper technique only a very small proportion of cases of malignant tumor are unfavorably influenced and in such cases more rapid growth of the tumor is due to the fact that in the presence of an acute inflammatory infiltration of the tissues in the neighborhood of the tumor cells the rays stimulate the inflamed base upon which the tumor grows into still greater inflammation.

The author protests vigorously against the belief that in malignant tumors small doses are uniformly or primarily irritative doses. If small doses really can irritate it would at best be only restricted doses on circumscribed areas and practically without significance.

JAMES T. CASE

Mackee G. M. Therapeutic Technique *Tr. Am. Röntg. Ray Soc.* Boston, 19, 3 Oct. By Surg. Gynec. & Obst.

The author discusses his subject under two headings: first, the estimation of the quality and

second, the determination of the quantity of ray employed.

To estimate the quality of ray he uses the milliamperemeter the Bauer galvanometer and the Benost radio-chronometer. He actuates the tube with one milliamperemeter of current and selects one which with this current will give a galvanometer reading of 8 to 9 and a radio-chronometric reading of 8 to 11 and maintain this vacuum for a considerable time. He advises the use of a hard ray for all lesions.

To determine the quantity of ray he prefers the Holzkecht radiometer. He does not dose his tube for quantity but measures the dosage of each treatment with the pastille.

He discusses the effects of age, heat, light, and moisture upon the pastille and concludes that although it does not answer all theoretical requirements it is sufficiently accurate for all practical purposes, provided the user knows the sources of error has had experience and is careful.

To administer a dose he places the pastille upon the skin rather than half way between the anode and the skin. His reasons are fully set forth in his article. As a basis of dosage he employs the dose table of H units as formulated by Holzkecht. He reasons thus: If 4 Holzkecht units of a Berost 6 ray (H4 B6) will produce an erythema of the skin of the face of an adult it will require a smaller dose of a B3 or a larger dose of a B9 to produce the same effect. Although Mackee is in favor of the massed dose he advises the inexperienced to employ a repeated small dose until a reliable technique is required.

In discussing the question of radiosensitivity the author states that he has neither seen nor heard of a true case. He does not however deny its possible existence. Hypersusceptibility does exist and is an important factor.

Some portions of the body are more sensitive than others. The face for example, is most sensitive and the scalp most resistant. Children are more susceptible than aged persons and females and blonds more susceptible than males and brunettes. Such diseases as mycosis fungoides, eczema, psoriasis and applications of chemical irritants such as tar, mercury, sulphur, iodine and particularly chrysarobin cause a hypersensitiveness of the skin. Hence the dose will depend upon the part of the body that is to be rayed, the age and complexion of the patient, the disease, the quality of the ray and the effect desired.

The author considers also the question of color blindness in connection with the reading of the pastille. Those afflicted with color blindness who can detect slight differences of unit can use the pastille but those who cannot make such comparisons cannot do so. Every radiotherapist should have his eyes examined for such a defect.

In conclusion the author advises the use of the customary indirect methods of qualitative and quantitative measurements such as the working

distance of the anode and the milliamperage of the current in the tube the direct method being added at first as a control but with experience gradually replacing the older indirect technique

FRANCES C. TURLEY

Roberts E. J : The Therapeutic Value of Secondary Rays Produced from Metals by the Action of Rontgen Rays *Aust. J. Med. Sci.* 913 xxxiv 239 By Surg. Gynec. & Obst.

When roentgen rays strike a metal the metal sends forth a secondary ray which is different from the rays it has received and varies in penetrating power according to the atomic weight of the metal exposed the greater the atomic weight the harder the ray. The quality of the secondary ray depends upon the kind of metal and not upon the roentgen rays used to excite that metal.

Rays filtered through metals must not be mistaken for these secondary rays given off by the metal itself. The filtering rays can be distinguished from the secondary rays by the barium platino cyanide screen the former causing fluorescence while the latter does not.

The tube chosen to produce the incident ray should be medium hard and the metal should be thick enough to prevent filtration of this exciting radiation.

Silver with an atomic weight of 107.66 and copper with an atomic weight of 63 have been found in the author's experience to produce a secondary ray suitable for therapeutic purposes the silver ray being most efficient for deep skin lesions and the copper for superficial lesions.

With these factors as a premise the author carries out a lengthy course of experiments with secondary rays and concludes that epithelioma and kindred diseases may be treated successfully with these rays instead of X-rays or radium.

His reasons for undertaking this work were the expense of radium the possibility of using a tube capable of radiographical work to excite the metals to secondary radiation and the fact that a given metal always produces a secondary ray of a constant degree of penetration, while the radiation from an X-ray tube is made up of rays of varying degrees of penetrating power which change further in quality with every alteration in the vacuum of the tube.

Technique The patient is protected by a piece of smooth thin lead in which a hole of the required

size is cut to fully expose the lesion. Over this hole is suspended a wooden frame one inch in thickness and three inches square to which the metal is fastened. In this way the metal is separated from the lesion about one inch. The metal is three inches square and sufficiently thick to retard the filtration of the rays which excite it. Copper should be from one sixth to one fourth of an inch thick and silver proportionately less. The metals must be pure. Both copper and zinc give off secondary rays when excited separately but an alloy of these metals can not be excited to secondary radiation by X-rays. The author uses copper of 99.96 per cent purity the 0.04 per cent of impurity being oxygen and a trace of silver. The tube is placed four to six inches from the metal. The exposures should be made daily and the treatment must be thorough.

Twenty cases are reported. Two were cases of tenia circinata each of which were treated with secondary rays from copper the first by eight sittings of ten minutes each with a resulting X-ray dermatitis and cure of the disease and the second by six exposures with the same result.

One was a case of cancer of the ala nasi of five years duration. This was treated first unsuccessfully by the author with X-rays and later cured by secondary radiations from silver in six sittings of ten minutes each.

In one case of generalized psoriasis a limited area was treated with copper ray. The disease disappeared from this area but remained in other areas that were treated by other methods.

Seven cases were cases of epithelioma. A combination of X-ray and silver ray was used in one case copper ray in two and silver ray in the other four. In all but two a successful termination was implied.

One case of lupus was treated with silver ray and at the date of the report had improved.

Four cases of rodent ulcer were treated successfully with the silver ray and one with the copper ray.

One case of warts treated with the silver ray was much improved when the patient returned home and treatment was stopped.

In one case of eczema squamosa silver ray effected a cure after four applications.

One case of tubercular disease of the neck occurring in an abrasion was treated with the silver ray but the result is not stated.

FRANCES C. TURLEY

GYNECOLOGY

UTERUS

Roll tt H: Intra-uterine Miliary Tuberculosis
(Uter intra terne mihäre Tuberkulose) *Wien Med
Wochenschr* 19 3 xxvi 1274
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

The patient was a woman who developed an acute miliary tuberculosis during pregnancy and bore a full term child (51 cm 3600 g) which died 48 hours after birth of miliary tuberculosis. The mother died 18 days after the birth of the child. This unusual occurrence proves that tuberculosis may be congenital, and that even the generalization may occur in utero.

TONGYKKA

Faure J L. Results of Abdominal Hysterectomy for Cancer of the Cervix (Traitement du cancer d col de l'utérus par l'hystérectomie abdominale). *Bull et mém Soc de ch de Par* 9 3 xxxix, 66
By Journal de Chirurgie

Faure reports 10 cases in his hospital experience who survived their operation for periods ranging from one year and two months to seven years and seven months. One patient operated on in September 190 died two years later without local recurrence but with generalized cutaneous sarcomatosis. There was without doubt some relation between this and the uterine cancer. A second patient operated on in January 1904 died seven years later of pulmonary emphysema without any trace of recurrence. Another operated on in June 1904 was well two years and four months later but has since died; the author has, however, been unable to learn the exact date or cause of her death. A fourth operated on in May 1903, died eight years later but the exact cause of death was not known. Of these four patients one was undoubtedly permanently cured of her cancer and there is a reasonable doubt as to recurrence in the other cases. The other six are in good health and completely cured one after eight years, one after ten three after eleven and one after more than fourteen.

Another set of statistics relates to 24 cases, enough from which to draw conclusions of some value. Of these 24 patients 2 or 8.33 per cent died from the operation. Of 5 others or 20.83 per cent 3 died of recurrence within the first six months. Another lived nearly two years dying of cerebral tumor. The fifth lived two and one half years and died of a recurrence in the pleura. Of 7 patients 7.83 per cent are at present well. Of these 4 have been operated on less than a year but there remain 13 who have been operated on for 19 months or longer so that their future is reasonably assured. Two were operated on 19 months ago, one two years ago, one two years and eight months, one three

years and one month, one three years and three months, one three years and eight months, one four years, one, four years and three months, one, four years and seven months, one, five years and four months, one five years and six months, one six years and three months ago. Several of these may still have recurrences, but Faure is more and more convinced with longer experience that they will be few in number.

J DUNOV

Leonard V N: On the Development of Malignant Disease of the Cervical Stump After Supravaginal Hysterectomy. *A Surg Phila* 1913 lvm 373
By Surg Gynec & Obst.

From the gynecological clinic of the Johns Hopkins Hospital, the author first reports two cases of carcinoma of the cervical stump after hysterectomy. He then gives a table in which is reviewed a list of 36 cases which have been more or less completely reported up to the present time. Reference is made also to others mentioned in the literature but never completely reported. Leonard does not advocate giving up supravaginal amputation as an operative procedure.

From representative European clinics Botsong collected 724 cases of subtotal hysterectomy with a primary mortality of 2.61 per cent and 499 cases of panhysterectomy in which the mortality was 6.6 per cent. Faure found the stump almost always atrophied and regarded it as being in a state of epithelial inactivity decidedly unfavorable to the development of cancer. Of the 36 cases in Leonard's table, it is probable that in at least 16 instances the presence of malignancy had not been detected at the time of operation. Of these 36 cases 16 or 72.2 per cent were operated upon for uterine myomata.

Considering only those cases in which the subsequent carcinoma was probably non-existent at the time of operation it is found that in 63 per cent of the cases the uterus had been removed for myomata. Leonard, therefore, argues that the question practically resolves itself into a study of the etiological relationship of myomata to cancer and of the technique to be used in removing the myomatous uterus.

Combining the statistics of Winter Noble and Callen, the author shows that of 3,786 cases of uterine myomata 124 cases or slightly over 3 per cent showed either cervical or corporal malignancy. There are no reliable statistics of the absolute frequency of cancer of the uterus but to place it at 3 per cent would be absurd. Therefore Leonard concludes that myomata exert an influence uncontestedly favorable to the development of uterine carcinoma.

Of 2513 cases of cancer of the uterus 186 cases or 7.4 per cent were of the body whereas of 215 cases of uterine cancer associated with myomata 134 cases or 62.3 per cent were of the body. As regards the cervix Winter has reported 25 cases of cervical cancer occurring in 120 cases of uterine fibroids about 2 per cent. Several cases are referred to where cervical carcinoma had been found in the routine examination of the specimens after total hysterectomy for myomata. Leonard argues therefore in favor of a "cupping out" of the cervix after supravaginal amputation as has been advocated by Kelly as a routine procedure. The technique is simple and its advantages are that (1) the cervix is more easily closed over (2) a carcinomatous focus deep in the cervix would be discovered and (3) by the removal of a large amount of the glandular tissue the chance of subsequent malignant degeneration would be proportionately diminished. Before opening the abdomen the cervix should be examined under sight and before closing it the amputated uterus should be opened and carefully examined for evidences of carcinoma.

CAREY CLIBERTSON

King A F A: Uterine Carcinoma: Another Hypothesis as to Its Cause and Prevention
S. J. Gynec & Obst 1913 xvi 48
By Surg Cancer & Obst.

The author presents the original idea that cancer originates from the fertilization of matured somatic epithelium cells by permatozoos. The somatic cells have been transformed into sexual cells by long continued irritation—they have reduced their chromosomes—and when fertilized they produce the pseudo-embryonic structures so long recognized as a characteristic of cancer. Numerous references from noted authorities are given in which the fertilization of cells is ascribed to leucocytes and other somatic cells but not to sperm as suggested by the present writer who insists that leucocytes have no such power. Cancer cell thus produced are parasites just as the cells of a normal embryo.

Regarded as a microbic disease (which in a way is correct) the microbe is the permatozoön in which the body grows with it.

In the development of malignant pseudo-embryonic structures no embryo appears at first; only the trophoblast tissues—those that arise normally from the non-embryonic portion of the blastodermic vesicle that develop into cancer. These trophoblastic cells in cancer as in a normal embryo are phagocytic and cytolytic; they corrode and destroy surrounding tissue opening blood vessels and producing hemorrhage—in the oral cavity the local effect is blood-thirstiness in normal placental lacunae and in the cancerous decidua fulminating hemorrhage of cancer.

As a rule, normal impregnation only occurs when a fertilized white or a white speck of proliferated tissue in the center of a maturing cell is able to

fertilization by sperm must be thousands. If a thousand normal ova were simultaneously impregnated *in utero* the product would be a cancer and not an embryo.

In support of his views in regard to uterine cancer the author cites the rarity of the disease in virgins. The exceptional occurrence of cases without coitus he explains is caused by means of an intermediary host such as the warm water of a bath in which spermatic elements may have been diffused.

To prevent cancer the contact of sperm with enescent proliferated tissues must be prevented. The author suggests amputation of the cervix *utero* before cancer begins in cases of chronically inflamed uterus, and asks whether coitus should not be prohibited after the menopause as a further prophylactic measure in the same line.

Boss L M: The True Prophylaxis of Carcinoma Uteri (Die wahre Prophylax des Uterus krebes). Ein Mah ruf an die Gynäkologie. Z. Strahl. f. Gynäk. 1913 xxviii 1000
By Zentralbl. f. d. ges. Gynäk. u. Geb. rish. u. d. Grenzgeb.

The author regards the early diagnosis of cancer as less important in cancer prophylaxis than the discovery of means to prohibit its development. Chronic ulcers and inflammations of the cervix and uterus should be treated conservatively and cautiously for they give the matrix from which carcinomatous metastasis start. Since caustics perse are likely to cause irritation he holds that their use should be discontinued. He makes a plea that all gynecologists make observations along this line in order to test its value.

RITTERSHILF

Klotz R: Treatment of Inoperable Uterine Carcinoma with Radium and Intravenous Chemotherapy (Die Behandlung des Inoperablen Uterus carcinomes mit Strahl- und Intravenöse Chemotherapie). München med. Woch. 1913 l. 704

By Zentralbl. f. d. ges. Gynäk. u. Geburt. u. d. Grenzgeb.
Report of 13 cases of inoperable uterine carcinoma treated simultaneously with electro-coagulation (intracervically 5 cm to the dose once a week) and moderate doses of radium therapy from 200-450 mg and 800-1400 mg hours. No distinct necrosis of the organism such as kidney irritation were observed from the intravenous injection. The local electrocoagulation also tried adding to the combined treatment serum injections from carcinomatous patients. He reports good results.

SWITZ

Weglin W: Lost Climacteric Myoecarcinoma of the Uterus (P. L. multi nodus Myoecarcinoma of the Uterus). F. d. Strahl. u. d. Grenzgeb. 1913 l. 704

By Zentralbl. f. d. ges. Gynäk. u. Geburt. u. d. Grenzgeb.
The patient was a woman 5 years old. She had borne eight children the last 13 years ago. The menopause occurred at the age of 40. Some time

GYNECOLOGY

UTERUS

Rollett H Intra uterine Miliary Tuberculosis
(Über intrauterine miliary Tuberkulose) *Wien M
H* 1913 xxv: 1774
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J DEXOV

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CAREY CULBERTSON

King, A. F. A.: Uterine Carcinoma. Another Hypothesis as to Its Cause and Prevention. *Su & Gynec & Obst* 1913 vii, 328.
By Surg. Gynec. & Obst.

The author presents the original idea that cancer originates from the fertilization of matured somatic epithelium cells by permatzoa. The somatic cells have been transformed into sexual cells by long continued irritation—they have reduced their chromosomes—and when fertilized they produce the pseudo-embryonic structures so long recognized as characteristic of cancer. Numerous references from noted authorities are given in which the fertilization of cells is ascribed to leucocytes and other somatic cells but not to sperm as suggested by the present writer who insists that leucocytes have no such power. Cancer cells thus produced are parasites just as the cells of a normal embryo.

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In the development of malignant pseudo-embryonic structures no embryo appears it is only the trophoblastic tissues—those that arise normally from the non-embryonic portion of the blastodermic vesicle—that develop into cancer. These trophoblastic cells in cancer as in a normal embryo are phagocytic and cytolytic they corrode and destroy surrounding tissues opening blood vessels and producing hemorrhage—the one case the local effusion of blood that lead to normal placental laceration in the other the dreadful hemorrhage of cancer.

As a rule in normal impregnation only one ovule is fertilized while in a visible speck of proliferated tissue the number of matured cells liable to

fertilization by sperm must be thousands. If a thousand normal ova were simultaneously impregnated *in utero* the product would be a cancer and not an embryo.

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Boss, L. M.: The True Prophylaxis of Carcinoma Uteri (Die wahre Prophylaxe des Uteruskrebses. Ein Mahnruf an die Gynäkologen). *Zentralbl f Gynäk* 1913 xxvii, 1000.
By Zentralbl f d ges Gynäk u Geburtsh. s d Grenzgeb.

The author regards the early diagnosis of cancer as less important in cancer prophylaxis than the discovery of means to prohibit its development. Chronic ulcers and inflammations of the cervix and uterus should be treated conservatively and cautiously for they give the matrix from which carcinomatous tissue takes its start. Since caustics *per se* are likely to cause irritation he holds that their use should be discontinued. He makes a plea that all gynecologists make observations along this line in order to test its value.

RITTERSHALZ

Klotz, R.: Treatment of Inoperable Uterine Carcinoma with Radium and Intravenous Chemotherapy (Die Behandlung des inoperablen Uteruskarzinoms mit Strahlen- und intravenöser Chemotherapie). *München med Wochenschr* 1913 ix, 1704.

By Zentralbl f d ges Gynäk u Geburtsh. s d Grenzgeb.

Report of 13 cases of inoperable uterine carcinoma treated simultaneously with electro-cobalt (intravenously 5 cm. to the dose once a week) and moderate doses of radiant energy from radium (200-450 λ and 800-1400 mg hours). No disturbances of the organism such as kidney irritation were observed from the intravenous injection of the metal. Klotz has also tried adding to this combined treatment serum injections from carcinomatous patients. He reports good results.

SAMUEL

Wegelin, W.: Post Climacteric Myosarcoma of the Uterus (Postklimakterisches Myosarkom des Uterus). *F f k t d dtsch Hndl Hl gsf rs* 1913 30.

By Zentralbl f d ges Gynäk u Geburtsh. s d Grenzgeb.

The patient a woman 57 years old had always been healthy had been married 31 years and had born eight children the last 13 years ago. The menopause occurred at the age of 50. Some time

later irregular hemorrhages from the uterus began and these gradually increased in number and quantity. She complained of pain in the left side of the lower abdomen and for five months the bleeding had been continuous. The examination showed an enlarged uterus reaching several fingers above the pubis. As the microscopic examination of scrapings of the uterus showed the presence of malignancy the uterus and adnexa were removed by laparotomy. Recovery was uninterrupted. On the posterior wall of the uterus there was a myoma the size of a small apple and its upper part showed sarcomatous degeneration. Microscopic sections showed the presence of two kinds of cells in the sarcomatous portion: (1) Small spindle shaped or polygonal cells with round or oval nuclei which stained deeply and (2) large cell also with large nuclei which however were stained pale. In the sections the gradual transition of myomatous cells into sarcomatous cells could be clearly seen. The author assumes that both cell forms have developed from the myomatous tissue as a result of the same stimulation the former from the connective tissue and the latter from the muscular tissue. A case recently described by Ogorék shows similar findings and seems to justify the author's opinion.

BYBACEVICH

Hultain F W H Some Rare Uterine Growths. Simple Papilloma of Corpus Uteri. Primary Tubercle of Cervix. Diffuse Nodular Fibrosis. *Edinburgh Medical Journal* 93 21 230.
By J. R. (York) & Obit.

This paper presents three rare conditions with the report of a case to illustrate each. Simple papilloma of the corpus uteri was present in a woman 59 years of age. She had noticed postmenstrual bleeding for about twelve years but only recently had it become troublesome or excessive. Curettage showed typical simple papilloma and the author was confident that the curettage would be all that would be necessary. However the bleeding persisted and it was necessary to perform a hysterectomy.

Primary tuberculous of the cervix uteri was found in a virgin 35 years of age. It presented itself as a fungus like growth purple in color and covered with a thick yellowish discharge. Microscopic examination showed the presence of tubercle. Supravaginal removal of the cervix was performed. The patient made a good recovery and has been well since with no signs of tuberculous elsewhere. The author recommended hysterectomy instead of the operation which he performed as it is a safer procedure for ultimate cure.

Diffuse nodular fibrosis of the uterus was found by the author in 700 hysterectomies for uterine fibromas. The pathological condition consists in the formation of innumerable small fibroid nodules varying in size from that of a pin's head to that of a hazel nut. In both cases the condition seemed to have developed in the beginning immediately

beneath the mucosa and to have gradually but uniformly thickened the uterine wall.

J H SMITH

Ohman K H Myoma of the Uterus and Ovarian Hemorrhage (Uterinomom and Ovarialhemorrhage). *Finnish Medical Society* 1913 14 98. By Central Board of Surgeons in Gothenburg.

The author reports 8 cases of uterine myoma accompanied by ovarian hemorrhage. He is of the opinion that hemorrhages occur in the ovaries in the presence of uterine fibroids and that the number of these hemorrhages has some relation to the uterine hemorrhage. According to the author the uterine as well as the ovarian hemorrhages are due to the severe congestion of the internal genitalia in myoma cases.

BYBACEVICH

Crisis and Ovarian Perforating Hydatidiform Mole (Contribution à l'étude de la mole disséminée ou perforante). *Revue de gynécologie et d'obstétrique* 10 3 3.
B. Journal de Chirurgie.

The authors have made an exhaustive study of the subject and report a case of their own. Every perforating hydatidiform mole has, as is shown by its very name a certain local malignancy. It tends to penetrate the uterine muscle and break through the vessel walls thus causing erosions and sometimes fatal hemorrhage either external or intraperitoneal. Most cases moreover show general malignancy histologically by epithelial proliferation and clinically by the appearance of metastases. All the histological reports published show dissemination of placental elements throughout the uterine muscle and a tendency for them to be scattered through the bloodstream. The authors' case is the only one which has shown purely local and circumscribed lesions. It is therefore relatively benign but it is a question whether it does not represent merely an early stage in development. As these moles are practically always malignant radical hysterectomy is the only justifiable treatment in most cases. Manual extraction cannot be done thoroughly enough to guard against recurrence. Abdominal hysterectomy is successful if it is not delayed until the patient is too weak. Curettage is very dangerous as it involves serious hemorrhage and frequently sepsis.

L. CHAVIER

Hansen T B Rise of Temperature Before Menstruation (Über prämenstruelle Temperatursteigerung). *Berlin Medical Journal* 913 21 29.
By Zentralblatt für Gynäkologie und Geburtshilfe.

Before puberty and after the menopause the temperature curve of women is the same as that of men that is, there is an almost parallel course for the morning or minimum temperature and the maximum temperature of the day. During their periodic life however there is a rise in the curve before menstruation and a depression afterward and the minimum curve shows a greater variation than the maximum so that the postmenstrual type

with its lower minimum temperature shows a greater daily variation while the premenstrual with an increased minimum temperature shows a relatively smaller daily range. During the first third of pregnancy the temperature shows the premenstrual type then falls slowly and in the last half of pregnancy approaches the postmenstrual type but with a lesser daily range. The curves of pregnant women never show period variations.

In the normal puerperium of nursing women there is a slight rise of the evening and a marked rise of the morning temperature. A series of experiments shows that an increase of albumin metabolism probably causes the rise in temperature of the premenstrual type. The reason for the greater rise in the morning temperature is that in the morning a decided rise does no harm to the organism while in the evening the heat regulating mechanism comes into play. Perhaps also in periods when there are extraordinary demands on the organism the resting periods are shortened so that the time of the actual minimum temperature is shifted. The importance of the premenstrual period and the first half of pregnancy in tuberculosis is due to the increased albumin metabolism. If a menstrual period occurs without any temperature variation it probably shows a failure of the metabolic reaction. Numerous reproductions of curves and an extensive bibliography are given.

HÖLDER

Cantoni V: The Changes in the Blood During Menstruation (Über die Blutveränderungen während der Menstruation). *Arch f Gynäk* 93 201 1914

By Zentralbl f d ges Gynäk u Geburtsh u Grenzgeb

Cantoni investigated the coagulability of blood according to the methods of Wohlgemuth. He examined the test tubes not only after 24 hours but also after the third fifth seventh ninth and twelfth hours in order to determine the possible changes which occur in the fibrin ferment and fibrinogen content of the blood during menstruation. The first examination was made at the height of the hemorrhagic period and the second about fifteen days before its beginning. Only observations from the same individual were compared. Seven experiments showed that the blood of the menstruating woman coagulates normally. The local cause that prevents blood excreted from the genital organs from coagulating has yet to be determined.

A second series of investigations was made to discover whether there is actually a diminution in the alkalinity of the blood during menstruation. According to the compensation method of Pörgendorff Ottwell a determination was made of the apparent weight of the potential between a hydrogen electrode immersed in the serum and a normal mercuric electrode prepared with a solution of 1% NaCl. It was seen that there was a slight increase in the alkalinity and a slight diminution of the acidity. These differences however did not exceed the

limits of the changes in the reaction of normal blood.

Investigations were carried out also to determine the total amount of the blood albuminoids before and during menstruation by means of the immersion refractometer of Pulfrich with the assistance of Reiss table. For this purpose blood was obtained from five women fifteen and seventeen days before menstruation during the highest phase of the hemorrhagic period and seven days after the cessation of menstruation. The refraction index and with it the albumin content of the blood increased slowly with the approach of menstruation. Their maximum coincided with the height of menstruation and they decreased again with the decrease of menstruation. Whether the change in the refraction index in menstruation is caused by the loss of blood or by other causes still remains to be determined.

HÖLDER

Dyrnsfurth F: The Detection of Menstrual Blood by the Glycogen Iodine Reaction (Zur Nachweis des Menstrualblutes durch d Glykogenjodreaktion). *Ztsch f Med B am. Berl* 1913 2311 45

By Zentralbl f d ges Gynäk u Geburtsh u Grenzgeb

The technique for the detection of menstrual blood is as follows. Smallest portions of the soiled cloth are rapidly pulled to pieces in a drop of a saturated solution of sodium bicarbonate to prevent the separation of the glycogen. A drop of Lugol's solution is then added. On microscopical examination it will be observed that the blood corpuscles have completely disappeared. The brown discolored epithelium of the vagina which before could not be recognized at all or recognized only indistinctly can now be seen easily with a low power. The dependability of the method has been tested in various ways and found to be good. Permanent preparations cannot be made.

BETTM

Greife H: Periodic Pains in Women (Über periodische Schmerzen bei Frauen). *Pter b med Zt b* 1913 233 75

By Zentralbl f d ges Gynäk u Geburtsh u Grenzgeb

The author points out the great practical importance of the symptom of periodical pain in women first described by Simpson and recently rescued from oblivion by Snegureff. At the same time each day they have violent pains in the abdomen which always last the same length of time. These periodical recurrences indicate uterine carcinoma or other foreign inclusions in the uterine cavity and are caused by periodic discharge of the collected retention. The author cites the case of a 50-year-old woman who had these unendurable pains first from one to five o'clock and later from nine to eleven o'clock in the evening. An supravaginal laparotomy was performed for carcinoma and was most apparent both macroscopically and microscopically. It was found so that afterward the carcinoma which had been left had to be removed.

RITTER, HALL

Chase W B: Menorrhagia and Metrorrhagia
Treatment and Remarks on Recent Claims
by Radiotherapy. *N. Y. J. Med.* 1933, 33, 70.
By Surg. Gynec. & Obst.

The author states that each menstruating woman is an individual equation in considering her periodicity and the various degrees of her resistance to the loss of blood. Some of the etiological factors having a pathological basis are uterine myoma, degenerative chronic endometritis inflammations of septic origin and those incident to miscarriage subinvolution, uterine displacements etc. Those of systemic origin include purpura malara nephritis arterio-sclerosis, and exhausting acute and chronic diseases. Bleeding which is of reflex origin, is seen at puberty after a local shock or incident to a powerful emotion.

He divides the treatment into hygienic medical and surgical. All predisposing or exciting causes must be removed. The patient requires proper food exercise in the open air with caution against fatigue and she must live and sleep in a well ventilated apartment. She should recline in a horizontal position with the foot of the bed elevated.

Medical treatment. Constipation should be regulated by diet as far as possible and the drugs used should be mild salines phenolphthalein and oil, rather than aloes and vegetable cathartics. Phthalate of cotarum opium hydrastinum, and ergot are particularly useful. Organic iron is useful in some cases the calcium salts are indicated if the coagulation time is diminished, also horse serum used by intravenous injection. Normal saline must be avoided during active bleeding. The high nervous tension should be controlled by bromides.

Surgical treatment. This procedure must not be delayed too long. Myoma of the submucous variety is most productive of hemorrhage and requires an early hysterectomy. Curettage is usually all sufficient in degenerative changes of the endometrium. Uterine displacements must be corrected and uterine polyps must not be overlooked. Tamponade is often found useful. The thermocautery frequently gives relief in cancer of the cervix. The author has had gratifying results with the local application of dilute acetic acid and acetone followed by the persistent use of radium on alternate days from fifteen minutes to six or twelve hours.

After thirty five years of age a hemorrhage in a woman should always suggest malignancy. In the last census reports it is shown that one woman in every fourteen died of cancer. After forty five years of age the ratio is one to nine.

Decidua maligna is a very puzzling form which causes hemorrhage and as soon as the diagnosis is made in the laboratory an immediate hysterectomy must be done. A radical change of treatment in hemorrhages due to myomas and in cases where the pathological causes are lacking has been instituted in Germany and other continental clinics by the use of the X-ray. This treatment is especially indicated where the patient refuses an operation or has in

sufficient strength or is unable to stop work. Eight weeks of roentgenotherapy is sufficient. The author quotes Werner as regarding the action of the X-ray to be that of influencing the chemistry of the body cell probably that of the ovary.

ROBERT T. CRISTOFER.

Baldwin J F: Dysmenorrhea from Imperfect Development of the Uterus or Malformations. *Med. Rec.* 1933, LXXX, 480.

By Surg. Gynec. & Obst.

The author calls attention to the fact that a certain percentage of cases of dysmenorrhea are due to malformation or imperfect development of the uterus. Such patients give a history of pain, commencing at the beginning of menstrual life and continuing in spite of all treatment. On careful examination with the patient under anesthesia, the uterus will be found to be malformed or below normal in size. One of the two cases reported in this paper had a bicornuate uterus fully developed on the right side but the left cornu was greatly swollen and its cavity was filled with blood and was not draining.

F. D. HOUZE.

Stark, J. V.: Four Cases of Inversion of the Uterus. *J. Obst. & Gynec. Brit. Emp.* 1913, XXX, 61.

By Surg. Gynec. & Obst.

Two of Stark's cases were puerperal and two non-puerperal. Of the puerperal, one was acute and one chronic. The first patient a primipara, died of shock soon after the inversion, which occurred with the delivery of the placenta by Crèdè's expression. The second case that of a primipara also, was discovered four months after labor during which time there had been a more or less continuous bloody discharge. Reposition was effected by abdominal section and incision in the posterior median line of the rigid neck of the inverted peritoneal sac. The author formulates the treatment of puerperal inversion as follows: 1. If there is little or no shock, reduction should be made at once the placenta being first removed if still adherent. 2. If there is severe and serious shock energetic and immediate measures must be adopted to combat it time not being wasted in attempts at replacement which if successful might aggravate shock. 3. When the condition has improved taxis should be employed gently but scientifically under anesthesia. 4. In cases seen after the lapse of months or years if moderate taxis fails the uterus should be repositioned if possible by abdominal section and incision.

Each of the two non-puerperal cases was the result of a malignant growth in the fundus. The second patient being an unmarried nullipara long past the menopause. He regards the only treatment worthy of consideration to be the removal of any tumor present and either hysterotomy or hysterectomy. The former treatment is advised when the patient is a young parous woman. The latter is found expedient (1) if a malignant tumor is present (2) if there is either thickening and hardening of the uterine wall

or softening and atrophy of the musculature (3) if there are dense peritoneal adhesions binding down the uterus or fixing bladder and rectum. The abdominal route should be chosen for hysterectomy rather than the vaginal. CAREY COLBERTSON

Westermarck: The Question of Prolapse Interposition of the Uterus (Prolapsfrage i t position des Uterus) Versaml d Nord sk r Vereins Kopenh

913
By Zentralbl f d ges Gynak. u Geburtsh. d Grenzgeb

The author believes that his method of lateral colporrhaphy in conjunction with the other plastic methods gives the best results, the records showing less than 7 per cent recurrences. By means of an ordinary phantom he demonstrated the manner of action of his colporrhaphy which stretches the vagina laterally. Furthermore the priority of the so called interposition operation between bladder and vagina belongs to him. The method which he employed for cure of cystocele was described under that name in Hygiea. It is not identical with that of Wertheim but with that described later by Schauta and it is indicated only in cystocele cases. In cases of total prolapse recurrences occur frequently by this method and in such cases therefore it is necessary to perform the usual vaginal plastic operations in conjunction with the above mentioned lateral colporrhaphy. He has employed the interposition operation in 40 cases of cystocele without any recurrences. In conclusion the author states that since December 1912 he has followed the suggestion of Carrel and employed vaseline-catgut for the buried sutures and vaseline silk for the external sutures. According to Carrel this procedure prevents the formation of thrombosis and pulmonary embolism which are the most dangerous and most frequent complications of prolapse operations. GAMMELTOFT

Von Radwanska W. Congenital Total Prolapse of the Uterus in a New born Infant with Spina Bifida (D r angeborene gänzliche Prolapsen bei einem mit Spina bifida behafteten Neugeborenen) Gy sk R nd ha 913 vi 55

By Zentralbl f d ges Gyn. u Geburtsh. d Grenzgeb

The author reports 14 known cases of prolapse of the uterus in the new born. Twelve times spina bifida was also present. The spina bifida causes defective innervation of the pelvic floor favoring development of prolapse. GRONBAUM

Olow J. Results of the Operative Treatment of Genital Prolapse (Resultat der operativen Behandlung des Genitalprolapses) Versaml d A d

h Kopenh 93
By Zentralbl f d ges Gyn. u Geburtsh. d Grenzgeb

At the gynecologic clinic in Lund 153 cases of genital prolapse were operated upon between 1909 and 1911. In 108 of these a re-examination was performed. In 22 cases a plastic vaginal operation was done. Twelve of these showed absolutely no signs of recurrence. 4 were subjectively well but

the result was not perfect objectively. Three cases were in fairly good condition and 3 had recurrences. Of the 12 cases which were treated with ventrofixation alone 8 were re-examined 2 had recurrence and 6 had no recurrence. A total of 89 cases were treated with ventrofixation and a plastic vaginal operation. Of these 3 died and 72 were re-examined. 53 of these showed no signs of recurrence whatsoever and 6 were subjectively well but objectively the result was not so good. A fair result was obtained in 5 cases and in 8 a recurrence set in. A ventral hernia developed in 5 cases at the site of the scar. In all the successful cases the fixation was firm but in 2 partially successful cases and in 3 of the recurrences the uterus did not remain in place.

Total extirpation of the uterus was performed in 4 cases of which 3 could be re-examined. Two cases were completely successful. In one case the patient is well but the objective findings are not perfect. Total extirpation of the uterus plus vaginal plastic operation was performed in 3 cases. One case was re-examined and showed no evidence of recurrence. Extirpation of the vagina was performed once and recurrence did not set in.

GAMMELTOFT

Hartmann Pessary Treatment (Pessarbehandlung) Versaml d Nord sk r Ver. Kopenh 913

By Zentralbl f d ges Gynak. u Geburtsh. d Grenzgeb

Hartmann reports the pessary treatment employed at the gynecological clinic of the Reichshospital. Operative treatment is carried out where ever possible. The action of the ring shaped pessary is regarded as insufficient as it rises on edge and permits the cystocele to glide down ahead of it. At times it also dilates the hiatus. The transverse pessaries held in place by a stem are to be preferred the action of the stem being to fix the pessary and thus prevent slipping the soft structures being rarely pressed upon. All forms of prolapse from the smallest to the largest have been treated in this way but a definite amount of muscular sufficiency is necessary to give the pessary support as it should rest on the pelvic floor. Subjective improvement can usually be obtained but complete reposition is seldom possible. It is often possible to decrease the size of a rectocele by means of a transversely placed pessary as it draws the posterior vaginal wall upward. Such treatment must be carried on cautiously and it is necessary to change the pessary every two to three months. Douches must be given daily. Pressure symptoms were never observed with hard rubber rings but severe colpitis frequently occurred. GAMMELTOFT

Childe C P. Suggestions for the Technique and Performance by a New Method of Wertheim's Abdominal Panhysterectomy. Brit M J 1913 u 7
By Surg. Gynec. & Obst.

After the patient has been anesthetized she is placed in the lithotomy position for operation.

undoubtedly the glycogen content of the tubal mucosa undergoes considerable variation being glycogen free when the endometrium presents all the signs of secretory activity and its epithelial cells are loaded with glycogen and vice versa when the endometrium is free from glycogen the tubal mucous membrane may contain it in considerable amount. Tubal decidual cells seem to contain it in small amount as compared to its content on the part of the uterine decidual cell. Inflammation seems to exert no influence in increasing the glycogen content. In one instance it was found in small amount in the cells of the corpus luteum.

CAREY CULBERTSON

Patel and Olivier. Conservative Treatment of Tuberculosis of the Adnexa (D la thérapeutique conservatrice dans le traitement de la tuberculose annexelle). *Rev de gynéc et obs* 33 231 23. By Journal de Chirurgie.

Patel and Olivier have studied the cases operated on at the surgical clinic at Lyons since 1900 for tuberculosis of the adnexa selecting only those where the disease had been demonstrated histologically or bacteriologically.

They gave the ultimate results in the cases treated conservatively and draw the following conclusions. The vaginal route ought to be abandoned entirely except in cases with secondary infection where there is a collection of pus in the pouch of Douglas interfering with the function of the rectum. Of 16 patients operated on through the vagina 12 had to be reoperated by the abdominal route. Simple laparotomy, the ideal conservative treatment but in cases where there are abscesses and granulations of the tubes it should be completed by salpingectomy. In some cases the uterus alone had been preserved but Patel and Olivier believe that this organ without the adnexa is dangerous and useless. It should be left after bilateral castration only in case it is so surrounded by tuberculous infiltration as to render its removal impossible or very difficult.

As to mortality and duration of life afterward conservative methods give about the same figures as radical. The survivals extend over a period of nine years. The health of the patients seems to be good but there are almost always some after effects such as abdominal pain, tenderness on pressure or in one case hypogastric fistula. All the patients except one menstruate but the periods are often long, copious and painful. There is leucorrhœa in all the cases pregnancy occurred in only one.

It is a question whether the continuance of menstruation is important enough to warrant conservative treatment with its danger of recurrence especially as castration in these patients does not produce any particular disturbance. Patel and Olivier believe that it is justified in cases where the tuberculosis has assumed a dormant form so to speak such a tubal cold abscess and tuberculous hydrosalpinx. These two forms reappear and when they are distinctly localized in the tube the

preservation of the uterus and ovaries is justified. When the ovaries are affected however either alone or with the tube a radical operation should be performed.

LASEBY

Nowikoff A. Therapeutic Significance of Castration (Thérapeutische Bedeutung der Kastration). *Ztschr f Geb rtsk u Gyn* 33 3 277. By Zentralbl f d ges Gynäk u Geburtsh 3 d Grenzgeb.

In severe cases of dysmenorrhœa in which all other therapeutic measures fail the author recommends castration as the most certain method of cure. Whenever castration was performed for this purpose the author always found a hypertrophied but histologically normal ovary. Frequently this finding is combined with malformations or with myomata but many times the hypertrophy is the only finding so that Nowikoff considers this a clinical entity. The poor results obtained by castration in osteomalacia are well known. In pulmonary tuberculosis the author prefers castration to hysterectomy. It causes a disappearance of menstruation and of the monthly hyperæmia which may cause exacerbations of the pulmonary trouble. The vasomotor disturbances disappear in time. Phenomena due to lack of ovarian secretion were not observed.

GIVSBOURG

Morita D. C. Pelvic Cellulitis. *Albany M J* 1913 23 543. By Surg. Gynec. & Obst.

The author urges that operations in acute pelvic infection should be limited to those for drainage and for peritonitis. Usually these are performed best through the vagina. Vaginal incision to be of value must be free. The earlier the pent up pus is released in pelvic infection the less damage will be done to the pelvic contents.

An incision in a pyosalpinx is useless as a curative measure though often useful in relieving pressure. In chronic cases the author believes it is conservative surgery to remove the diseased tubes and ovaries.

A gonorrheal infection may extend through the structures of the tube and cause a localized peritonitis with the formation of many adhesions. Gonorrheal peritonitis rarely extends and involves the general peritoneum. Gonococci may cause a salpingitis, a pyosalpinx and a peritonitis but never a pelvic cellulitis.

Tuberculosis in the pelvis is usually primary in the tube and is generally disseminated into the other tissues. Tuberculous infection may be spread by the blood, the lymphatics and contact.

The author urges the necessity of accurate diagnosis before uterine instrumentation. Curettage is useful in sapremia but usually fatal in septicæmia. If in doubt concerning the actual condition—even if there be heat and induration associated with pain with or without a chill, a rapid pulse and some temperature—curettement should be avoided unless the character of the organisms has been determined by a bacteriological examination.

C. H. DAVIS.

EXTERNAL GENITALIA

Rothe H: Is a Bloody Dilatation Necessary in Vaginitis (ist drum Vaginismus ein blutige Erweiterung notwendig)? *Ztschr f Geburt u Gynäk* 1913 LXIII 479
By Zentgraf! d. ges. Gynäk u Geburtsh u d. Grenzgeb

The author considers vaginismus as a psychical reflex induced by a phobia but does not rely alone upon the non bloody division of the constrictor cunn. Psychical influence is also necessary. After a manual dilatation under narcosis, the patient should have inserted a cotton plug containing cocaine saline for ten minutes, twice daily followed by the introduction of a dilator kept in place for an hour. The author begins with dilators ranging from 20-24 mm. The dilators may be made of polished wood or hard rubber. During the introduction the abdominal pressure should be utilized as antagonistic to the spasm of the muscles involved. *Mönn.*

Farham F W: A Case of Inaccessible Vesico Vaginal Fistula Operated Upon by George Gray Ward's Method. *Surg Gynec & Obst* 1913 LXI 368
By Surg Gynec & Obst

The fistula followed a total hysterectomy and occupied the apex of the left vaginal sulcus. Efforts at closure per vaginam by the ordinary method failed as did a second attempt by opening the bladder and closing the fistula when the bladder and per vaginam.

At the third operation Ward's method was tried. This consists in making an incision from just behind the urethra backward to the posterior wall of the vagina and another at the level of the fistula across the vagina. The four flaps are dissected up freely until the bladder is sufficiently mobilized to be brought down by a straight sound introduced into the urethra. The fistula is then easily sutured. It is important to begin this dissection in the center where the lines of cleavage are well marked.

Nothing new is claimed in this mobilization of the bladder as it has been done by many operators since Mc Kenrodt so clearly described his technique in 1894 but the special technique as given by Ward for cases of fistula consequent upon total hysterectomy is so clear and simple that it will appeal to any surgeon confronted with such a case.

The author also calls attention to the use of the fascial flap in these cases and refers to one success fully done by Schmidt who placed a flap of the fascia lata over the sutured fistula and then sewed the mucous membrane over that. *E. L. CORWELL.*

Wolk M: The Treatment of Gonorrhoeal Vaginitis in Children with Autogenous Vaccines. *Chicago Med Rev* 913 xxx 46
By Surg Gynec & Obst

The author discusses his reasons for using autogenous vaccines in treating gonorrhoeal vaginitis

in children giving his methods of preparing and administering the vaccine and tabulating his results in a series of forty cases.

Either stock or autogenous vaccines may be used, but the latter type is to be preferred as it offers a more specific method of treatment. In the first place as the particular strain is very important the organism of the stock vaccine may not be the one needed at all moreover the vaccine should be made from the organisms recovered from the patient and not from those resulting from several transfers of these organisms on artificial media. The vaccine must be fresh.

Five culture tubes are inoculated, three of human blood agar or hydrocele or ascitic agar and two of plain agar. After forty-eight hours incubation at 37 C all of the growth from all of the tubes is used in making the vaccine. If the vaccine cannot be made at that time the tubes are put into the ice box so as to stop the growth. The vaccine is killed standardized and stored in the usual manner. For at least two days previous to the time that the cultures are taken for the vaccine the child should be given no local treatment.

The vaccine is injected hypodermically and the initial dose is twenty five to fifty millions. Usually babies and small children are given a smaller dose than older patients. The reaction may be slight or severe and disappears readily. In some cases there may be no reaction at all. Injections should be separated by an interval of from five to seven days. Smears should be made two weeks after the initial dose and at intervals of a week thereafter. If at the end of six weeks the case still needs treatment a second vaccine should be made.

In a series of forty cases treated as above outlined no other treatment was used except ordinary external cleanliness and before each patient was discharged as cured three negative smears were obtained one week apart after treatment had been stopped. Only one case returned after a period of two months with a recurrence, and while it has been one year since any of these cases were treated this one so far as known is the only recurrence. The ages of the patients varied from one month to one and a half years. The number of injections given varied from four to ten the average being seven, which means thirty five days as the average time of treatment.

A carefully prepared table is presented, showing in detail the treatment with mixed autogenous vaccines. For gonorrhoeal vaginitis in children the author considers this treatment 100 per cent efficient. In adults it shortens the time of treatment and in many cases shows remarkable results when used in conjunction with the usual local procedures. In children however vaccine should be the only treatment given. There is no tampering with the child's genitals or reproductive organs, which in itself is a great thing for the child and moreover the cure is quick and harmless as there is nothing to count against its use.

C. D. HOWES

Barnett N Vulvovaginitis in Young Children
Its Control and Successful Treatment *Arch.*
Pediat 1913 xxx 650 By Surg Gynec & Obst

Fifty cases are reported only twenty six of which continued systematic treatment. The duration of treatment varied from one week to six years but the average was eight and one half months. It was shown in examination of these cases by means of the urethral speculum that the cervix was always affected. Superficial ulcerations were frequently to be seen in this region.

Six cases showed complications one was complicated with arthritis of the shoulder one with arthritis of the wrist one with chronic general peritonitis one with painful heel (periosteal exostosis) and two with pelvic peritonitis.

Except in complications, Barnett had no results whatever from the use of vaccines. In no case was a culture from the urethra positive. The treatment as given by Barnett was as follows.

The external genitals are sponged off and the labia separated the Kelly endoscope is inserted as far as possible the size of the endoscope depending on the size of the opening in the hymen and not on the age of the child. An endoscope of proper size should cause no pain — this is of the utmost importance. After one or two sittings the little patients will allow this procedure quite readily the obturator of the endoscope is withdrawn the light inserted and with no other manipulation than with drawing the tube one quarter to one half inch the cervix presents at the distal end of the tube any secretion is then removed with the applicator and iodine (Lugol's solution) is applied directly to the cervix and vaginal walls as the endoscope is slowly withdrawn. These endoscope treatments are carried out three times a week. The important fact to bear in mind is infection of the cervix and the treatment should be directed toward elimination of this focus of infection.

As to prophylaxis he advises that the children should be kept separated from other children in every possible way and the teachers and social workers should be taught the prevalence of the condition.

Fleischauer Operated Vulvocarcinoma (Operiertes Vulvacarcinom) *München med Wchnschr* 9 3 12

74 By Zentralbl f d ges Gynak u G birth d Grenzgeb

According to the author the poor permanent results obtained in cases of vulvocarcinoma are due to the fact that the anatomic relations of the lymphatics of the external genitalia are not adequately considered. It is not sufficient to remove only the external inguinal glands but following the suggestion of Rupprecht the deep glands lying in the fatty tissue of the fossa ovalis along the inner side of the femoral vein must also be removed on both sides. Furthermore according to Stockel the hypogastric and iliac glands should also be removed by laparotomy. Roux

Martin A Sarcoma of the Labia Majora (Sarcome de la grande lèvre) *Res de gynec et de chir abdom* 19 3 xxi 177 By Journal de Chirurgie

Martin observed a case of sarcoma in this unusual locality and looked up the similar cases in the literature. He found they were generally ovoid tumors. With the long axis following that of the labia almost regular in contour with possibly a few more or less prominent nodules. There is generally nothing in the gross appearance to enable one to differentiate them from other tumors. The skin seems healthy or sometimes a trifle oedematous but it is not adherent. Below the tumor is adherent to the prepubic fascia or to the bone or may extend toward the inguinal canal. In Martin's case the inguinal glands were involved so that they could be seen from some distance. Occasionally the tumor is pedunculated (Hinselmann).

On section the tissue is firm and lardaceous resembling carcinoma sometimes it has the classical appearance of melanosarcoma.

Histologically fusiform and globose cellular sarcomata have been described but they are rare. Borrmann describes peritheliomata originating either in the adventitia of the blood vessels or in the endothelium of the perivascular lymph spaces.

These tumors originate in the subcutaneous cellular tissue. Often the sarcoma has been preceded by a nevus or a cutaneous or subcutaneous angoma — in other words a malignant degeneration of a congenital tumor.

Clinically there is a first stage which may last for years when there is only a small indolent nodule or a more or less pigmented nevus. During the second stage there is more or less rapid growth of the tumor which becomes troublesome but not painful. In the third stage there is a tendency to spread to the inguinal glands to the labia minora of the same and the opposite side and to the clitoris or the muscles to compression of the internal saphenous and of the femoral resulting in oedema and finally in metastases and cachexia.

In the majority of cases absolute diagnosis can be made only with the microscope. The prognosis is grave. Treatment is surgical. If the glands are involved they should be removed en masse with the tumor. Frequently there are adhesions to the saphenous or femoral. Radiotherapy should be used in after treatment. The results are not brilliant even when operation is performed early and the patient generally dies of metastases.

GEORGES LABRY

Schultz T The Pelvic Floor and Its Relation to the Genes of Genital Prolapse (Der Beckenboden und sein Verhältnis zu der Genese der Genitalprolapse) *Versamml d Nrd chir Vereins Kopenh* 913

By Zentralbl f d ges Gynak Geburtsh d Grenzgeb

The pelvic organs are carried by the muscular pelvic floor and the author claims the explanation of the method of closure given by Halban and

Tandler is incorrect and that the urogenital diaphragm the perineal body and the perineal portion of the levator ani are of no significance. The opening in the levator is no sagittal split which closes itself transversely but a round opening or a transverse split which is closed longitudinally. The closure is effected by the puborectalis muscle which acts as a sphincter urogenitorectalis, or in short as a phincter pelvis.

The author showed the action of this phincter upon the vagina and rectum by means of plaster casts. Genital prolapse is due to an insufficiency of the sphincter pelvis. The cases of post partum prolapse are due principally to a tearing of the anterior insertion points of this muscle. The prolapse in the newborn is due to a paralysis of this sphincter and the prolapse of nulliparae to a dilatation of this sphincter in the same manner that an invagination of the colon dilates the sphincter ani externus and allows it to prolapse. A retroversion of the uterus plays no part as an etiological factor and the elongation of the cervix must be explained according to Ziegenpeck's theory and not according to Halban's and Tandler's theory.

MISCELLANEOUS

Daniel C.: Inguinal Hernia of the Female Genitalia (Die Leistenhernien des weiblichen Geschlechtsorgane). *Beitr. z. Geburtsh. u. Gynäk.* 1913, VIII, 3.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

Inguinal hernias of the female genitalia occur at all ages, most frequently in the first two years. Their early appearance and the frequent accompaniment of malformation of the genitals, indicates that these hernias are of congenital origin. The contents may be the uterus alone or with the adnexa, the ovary alone or with the tube, the tube alone rarely or most frequently the adnexa of one side, the latter in 10 out of 21 cases. Congenital elongation of the broad ligaments and tubes is an etiological factor. Acquired genital hernias often result from a pregnancy which has caused elongation of the uterine ligaments. Even in double ovarian hernias pregnancy and normal childbirth are possible.

Diagnosis of a genital hernia is difficult. Ovarian hernia is the easiest to diagnose, because the round smooth symmetrical ovary can be felt. It is sensitive to pressure, the pedicle is in the inguinal canal and there are various menstrual disturbances. By manual examination should always be made. Dangerous complications are incarceration, infection of the ovary and tube, pregnancy and, most frequently, torsion of the pedicle of the hernia resulting in peritonitis and intestinal obstruction. If the adnexa becomes infected all stages from catarrhal salpingitis to pyosalpinx may appear. Conservative treatment with a truss is indicated up to the fifth year, since in early childhood recovery often takes place. After five years of age surgical treatment in uncomplicated hernias the prolapsed ovaries

should be spared as far as possible. The author describes a case of his own presenting right salpingo-oophoritis in the sac of an inguinal hernia in a woman of 31. After a radical operation for hernia and castration on one side recovery was made.

GRATZNER

Aschner B.: Passionate Phenomena Hyperæmia and Hæmorrhagia of the Female Genitalia Following Subcutaneous Injection of Ovarian or Placental Extract (Über brünstige Erscheinungen Hyperæmie und Hæmorrhage am weiblichen Genitale nach subcutaner Injection von Ovarial oder Placentarextrakt). *Arch. f. Gynäk.* 1913, XLIX, 534.

While experimentally producing milk-secretion by means of the subcutaneous injection of ovarian and placental extracts the author noted a hyperæmia of the genitalia. He could produce hæmorrhagia even hæmatometra in the uterine mucosa of guinea pigs the ovaries containing an unusual number of opening follicles. He believes that this brings about the hyperæmia in the genitalia. Placental extracts work even more strongly and he suggests that they be used in amenorrhœa, sterility and climacteric disturbances. HARR

Albers-Schönberg: The Treatment with the So Called Deeply Penetrating X Rays in Gynecology (Referat über die gynäkologischen Tiefentherapie). *Fortschr. a. d. Geb. d. Röntgenstr.* 1913, 93.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

The author says the gynecologist should make the diagnosis, set the indication for treatment and observe the clinical course of the disease when X-ray treatment is employed and the röntgenologist should determine the technique and dosage to be employed. Animal experiments have proved that macroscopically there is a decrease in the size of the ovary. Histologically a disappearance of the graafian follicles and a quantitative decrease in the germinal epithelium with degeneration could be demonstrated. These same changes could be observed also in the human ovary. All myomata are indications for X-ray treatment in patients of 40 years or over, the younger women requiring larger doses. Its use is contra-indicated in polypoid or gangrenous tumors showing active hyperplasia of the epithelium with polyp formations, cystic tumors with sarcomatous and carcinomatous degeneration or those in which such degeneration is suspected. Of much importance is the disappearance of hæmorrhage and the decrease in the size of the tumors that result. Enlargements of the tumor however may occur under treatment in spite of the fact that the hæmorrhage has ceased. Menorrhagias and metrorrhagias are likewise influenced favorably. Side reactions occurred similar to those reported by other authors. The author's conception of the action of the rays is similar to that of other men previously reported. About 75 per cent of the author's cases

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Andrews H R Acute Abdominal Pain in
Pregnancy *Ci J* 1932 353
By Surg Gynec & Obst

The following conditions are considered by the author as the causes of abdominal pain in pregnancy: pyelonephritis, adhesions, extra-uterine pregnancy, simultaneous intra- and extra-uterine pregnancies, acute hydramnios, hydatidiform mole, uterine fibroid, twisting of the pedicle of an ovarian tumor, intestinal distention, pneumonia, and pleurisy. Each condition is illustrated by a case-report. Because a woman is pregnant and has acute abdominal pain, the pregnant uterus itself should not be held responsible for the suffering. Many complications of pregnancy causing acute abdominal pain are missed and the patient is condemned to much unnecessary distress as the pain is attributed to painful uterine contractions and treated only with sedatives.

Pyelitis of pregnancy is rather common the symptoms usually beginning during the second half of pregnancy. The diagnosis is made from the signs and symptoms and the disease must be differentiated from appendicitis, enteric fever, other gastro-intestinal disturbances, and influenza as well as from renal calculi. Pyelonephritis in pregnancy is caused most frequently by an ascending infection facilitated by a dilatation of the ureters due to pressure of the pregnant uterus at the pelvic brim. The right ureter is pressed upon more often than the left as it lies farther from the middle line and so gets less protection from the projecting promontory of the sacrum. Infection may be also of haematogenous origin or transmitted by continuity from the bowels. Vaccines have given good results in conservative treatment. Interruption of pregnancy should be avoided unless both kidneys are affected and the patient's condition goes from bad to worse. An increased risk of puerperal infection is denied.

Acute abdominal pain due to adhesions is present in cases where ventrofixation has been performed. The author makes it a point to suture the uterus as low down as possible usually at the vesico-uterine plica. He does not recommend the suturing of the posterior part of the fundus to the abdominal wall in a patient who may become pregnant again. Of 189 cases of pregnancy and labor after ventrofixation there were three cases of uterine rupture and sixteen in which cesarean section was performed.

Another complication is the possibility of intestinal strangulation which should be prevented by occlusion of the vesico-uterine pouch by the sutures.

In extra uterine pregnancy the pain is due to bleeding either into the peritoneal cavity or into an encysted collection of blood. The occurrence of slight external bleeding accompanied by pain in early pregnancy must always arouse suspicion that the ovum is occupying an abnormal site. Mistakes in diagnosis in severe internal hemorrhage due to tubal pregnancy are perforation of the appendix, perforation of a gastric or duodenal ulcer or twisting of the pedicle of an ovarian tumor.

If hydramnios occurs in the fore or middle part of pregnancy and not in the last two or three months it may cause acute symptoms such as severe pain and uncontrollable vomiting. It is usually found to accompany a twin pregnancy. Andrews tells of collecting 20 pints of liquor amni in one case.

A hydatidiform mole that is large and growing rapidly may cause severe pain and often albuminuria. If intra uterine pregnancy is accompanied by bleeding pain and much vomiting or albuminuria during the first half of pregnancy a hydatidiform mole should always be thought of. Albuminuria of pregnancy is so rare before the sixth month that it should arouse suspicion that the pregnancy is abnormal. The size of the uterus is usually farther advanced than would be accounted for by the period of amenorrhoea and no evidence of the presence of the fetus can be obtained.

Acute abdominal pain due to fibroids may be caused during pregnancy either by degeneration or incarceration of the tumor. If the latter becomes painful degeneration should be suspected. One is loath to operate on fibroids during pregnancy because the increased vascularity may make myomectomy impossible and render hysterectomy necessary and also because myomectomy may be followed by miscarriage or premature labor. Rest and sedatives often enable a patient with tender painful fibroids to go on to full term. If an operation is rendered necessary by acute pain during pregnancy myomectomy rather than hysterectomy should be performed whenever possible.

Torsion of the pedicle of an ovarian tumor occurs fairly frequently during pregnancy. The onset of the pain is usually sudden and accompanied by fainting and vomiting. The abdominal wall is tender and tense intestinal distention occurs soon after twisting. Operative interference is indicated.

Intestinal distention during the latter months of pregnancy is alarming on account of the added distention of an already filled abdominal cavity. Usually it is due to constipation and is relieved by enemata and catharsis. Appendicitis, pyelonephritis, twisting of an ovarian tumor and diaphragmatic pleurisy must be excluded.

Pneumonia and puerperia are rare in pregnant women probably because of an added immunity. The distress caused by impeded movements of the diaphragm may be very severe. Premature labor frequently comes on spontaneously.

HENRY SCHMITZ

Falk E. The Treatment of Extra Uterine Pregnancy. (*Zur Therapie der Extra uterina nidi*) *Arch f G wkb* 19 3 xlv, 638

By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

The author reports surgically eighty-four cases of extra uterine pregnancy, three of them by incision of an infected hematocoele, ten by removal of the tubal sac by an anterior colpotomy and seventy-one by a laparotomy. Thirty-five were emergency operations. Three patients died making the mortality 3.6 per cent. In spite of these favorable results Falk is of the opinion that a diffuse hematocoele of moderate size resulting from a tubal abortion in the fifth, sixth or seventh week and without continuous hemorrhage severe disturbances, an isolated tubal tumor and any demonstrable growth does not necessitate an operation. A number of such cases he treated expectantly keeping the patient under observation continually and did not have a single death. Moreover the patients did not experience any lasting injury to their health. In almost every case the hematocoele was absorbed within a few months, and in some cases pregnancy occurred again.

Falk admits that it is difficult to differentiate between a diffuse hemorrhage encapsulated in the cul-de sac and an advanced ectopic pregnancy with a blood mass. Of the three deaths, one was a case which was treated expectantly at first but which later necessitated an emergency operation. Surgical treatment is indicated only under the following conditions: (1) If an intact extra uterine pregnancy is recognized; (2) if the patient's life is endangered on account of hemorrhage; and (3) if an isolated tubal tumor can be demonstrated next to the hematocoele.

The author urges great rapidity in operating. He himself prefers the abdominal route, avoids the elevated pelvis position and attempts a careful toilet of the abdominal cavity, as the irritation of the peritoneum caused by the presence of the blood produces an elevation of the temperature. One third of his cases had temperatures before the operation. In one case of rupture of a tumor containing fluid blood he noted also toxic acute atrophy of the liver.

LXXXIX

Hartmann I P: Tubal Pregnancy (*Beiträge zur Klinik der tubaren Schwangerschaft*) *Nord med Aft* 19 3 h. Sez 21

By Ze Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

A clinical report of 93 cases of tubal pregnancy treated from 1898 to 1910 showed nothing particularly new. Laparotomy was performed in 66 cases, in 16 the operation was by the vaginal route. Since

1905 the abdominal route has been used exclusively. In 40 per cent of the cases where operation was performed on one side only pregnancy occurred afterwards. The other adnexa should be left in place if their consideration justifies it at all. BERNHARD

Ward C: Case of Prolonged Gestation. Double Uterus, Tubal Abdominal Pregnancy. *Trans-med N J* 913, 89

By Surg Gynec & Obst

The author reports a case of tubal abdominal pregnancy from which a perfectly formed dead fetus weighing about 8 lbs was removed. The diagnosis was made after dilating the cervix. Exploration of the uterus showed that it was double and that the right half which corresponded to the tubal pregnancy contained decidua, while the left half was smooth. The duration of pregnancy in this case was estimated to be 308 days.

On opening the abdomen the head presented, and the child appeared to be free in the abdominal cavity with no sac or collection of fluid. The placenta was attached to everything it could reach and was detached with difficulty. It was necessary to stitch the intestine for two inches. The uterus was double and about the size of a uterus a week or two after delivery. The left appendage was normal. The right tube was enlarged to about the size of a thumb in thickness and about in the center of the ampulla rather to the uterine side and behind, was a thick swollen edged aperture which he thinks was the original rupture.

C. H. DAVIS

Smith R. R.: Intra Uterine Fracture. *Surg G & Obst* 19 3 xlv, 355

By Surg Gynec & Obst

Smith reports a case of true intra uterine fracture giving X ray plates and photographs. The mother fell through a porch two months before delivery. The child was born with a united fracture of the tibia and fibula. This was corrected about three weeks afterwards by open operation.

Intra uterine fractures are divided into four groups as follows:

(1) Intrapartum fractures occurring usually during artificial delivery.

(2) Fractures depending upon disease of the fetus, the fracture being incidental chondrodysplasia, osteogenesis imperfecta, and syphilis.

(3) Certain deformities usually of the leg formerly commonly classed as intra uterine fractures but now proven otherwise. The author discusses the various theories as to their origin and concurs in the view of Mall that they are due to faulty implantation of the ovum.

(4) True intra uterine fractures occurring in healthy individuals and resulting from violence.

From the literature Smith has collected forty two cases of the last named group. Some of these he believes are doubtful. The fractures may occur without abortion or serious injury to the mother. More than one fracture sometimes occurs in one

fetus In all there were twelve fractures of the clavicle eleven of the skull eleven of the leg four of the forearm four of the humerus three of the femur and one of the scapula. It is well to know that such true uterine fractures though rare may occur in order that we may be able to distinguish them from the other fractures or deformities seen at birth.

Paddock C F: Pregnancy Complicated by Appendicitis *Am J Obst & Gyn* 1913 49
By Surg & Nec & Obst

In appendicitis during pregnancy the uterus helps wall off the infected zone and in case of an abscess forms a part of the abscess wall. The fever and the irritation produced by the inflammatory reaction set up uterine contractions so that a large percentage of acute cases abort. The consequent contraction and retraction of the uterus tears adhesions or may actually remove one of the walls of an abscess and cause a generalization of the peritonitis. In this way appendicitis is more serious in the gravid than in the non-gravid state. The necessity for an early diagnosis is consequently urgent. Though occasional cases may recover without operation the termination of a given case is even more dubious than in the non-pregnant state. In every case is to be operated upon regardless of the period of gestation. Cases occurring during the puerperium pursue the course of appendicitis ordinarily. The altered position of the appendix in pregnancy may cause some difficulty in the diagnosis. The most frequent condition mistaken for appendicitis during pregnancy is right-sided pyelitis. This affection may so nearly simulate appendicitis and is so frequent that Paddock especially emphasizes the necessity of considering this possibility in every suspicious case of appendicitis more especially during pregnancy.

with innumerable cysts of a bluish color and varying from the size of a pinhead to that of a pea.

The diagnostic points are the presence of irregularly shaped renal tumors in both sides pains in the regions of the kidneys, transient hematuria with signs of chronic nephritis a similar disease of the liver and malformations of the genitalia. The treatment must be as conservative as possible. Conception should be avoided as the condition grows worse during pregnancy. The latter should be interrupted. Nephrectomy should be performed only as a last resort as one third of the cases die following this operation. If possible the treatment should consist of nephrotomy and drainage though two patients thus treated died immediately and one six months afterwards from uremia. *WASCHER*

Chenhall W T: Uterine Myomata Complicating Pregnancy *Australas J Gyn* 1913 xxiv
122 By Surg Gynec & Obst

The writer dwells on the diagnosis of pregnancy in a myomatous uterus and reports two such cases with successful myomectomies during gestation and subsequent full term deliveries with normal labors. The difficulties of diagnosing pregnancy are greatly increased by the added enlargement and distention of the organ produced by one or more tumors. It is of considerable importance that early diagnosis should be made. A primipara 24 years old was in the third month of pregnancy when she became alarmed by a swelling which was appearing in the right side of the abdomen and beginning to cause pain. A pregnant uterus was easily defined with a tumor projecting from its wall. The tumor larger than the uterus was round smooth soft easily movable and slightly tender on palpation. An immediate operation was advised because of the rapid growth and increasing softness. The tumor was enucleated. The muscular layer of the uterine wall was brought together by a lateral suture of catgut the peritoneum being carefully united and then reinforced by a continuous Lambert uterine Recovery was quite uninterrupted and abortion prevented by a free use of morphine during the first five days. Spontaneous delivery at term occurred after twelve hours of labor. The other patient was a subprimipara 26 years old. At about the fourth month of gestation she noticed a peculiar swelling with bladder distress amounting to intermitted frequent and sometimes painful micturition. The swelling was diagnosed as a subserous myoma in close connection with the cervix. It was removed and the patient contemplated early return to her home in the country where facilities for proper treatment were limited in case of complication. Immediate removal of the myoma was advised. This was successfully done. Recovery was uneventful with morphine given during the first twelve hours postpartum. The patient went home four weeks later and was delivered at full term with attendance by a doctor. *SCHWITZ*

Illinois F: Cystic Kidneys and Pregnancy
(Cystic Kidneys and Pregnancy)
By Gynecologist & Obstetrician

A further review of the literature concerning this subject in a case history by the author is described. In this patient a primipara thirty years of age was confined four years ago. In the first half of pregnancy both kidneys were enlarged. At the seventh month of pregnancy she complained of severe pains in the right side and had hematuria, gross toxic symptoms such as headache, vomiting, disturbed vision, albuminuria and signs of cardiac failure. She improved temporarily following a premature labor induced by a vaginal section. On the tenth day postpartum she developed a pyelitis. On the thirteenth day a right nephrectomy was performed. The patient died eighteen hours later. A postmortem examination revealed bilateral cystic kidneys. The right kidney was the larger and had a brain-like appearance. The left was permeated

Trethowan W: Uterine Fibroids and Pregnancy. *Australas J Gyn* 1913 xxiv 119
By Surg Gynec & Obst

The author discusses the indications for treatment and gives several case reports. The condition is not very common and usually causes very little harm. Occasionally, however, the woman's life is in extreme peril. Each case must be considered on its merits and treated accordingly. Women with fibroids may become pregnant, and pregnancy delivery and the puerperium will be normal. If pregnancy occurs with fairly large submucous or intramural fibroids involving most of the fundus, operation should be urged as abortion is practically certain. The points in favor of operation in nearly all cases are as follows: (1) Most of the tumors require operation sooner or later. (2) The danger is increased by pregnancy. (3) The mortality from operation is low and should not exceed 5 per cent. The reasons again for operation are: (1) The danger of pregnancy in these cases is not very great. (2) In a large majority of these cases gestation is followed by normal delivery and puerperium. (3) It is harsh treatment to condemn a woman to sterility before she has had a chance to bear a child to term.

ILL AS SCHMIDT

Lynch F W: Fibroid Tumors Complicating Pregnancy and Labor. *Am J Obst* 1913 lxxvii 419
By S. R. G. & Obst

Lynch has in this careful article given a complete history of the subject and has considered in a comprehensive way the various effects of pregnancy on the tumor and the tumor on the pregnancy. He has analyzed a large number of the reports of operations for this condition in a critical way and concludes that if indications were present for operation the majority of the case reports failed to show it. The mere presence of a tumor of the pregnant uterus is not an indication for operation. The symptoms must be of sufficient present gravity to justify an operation which has as its greatest probability the sacrifice of not only the existing pregnancy but all future pregnancies also. The greatest percentage of cases run approximately a normal course during pregnancy and labor. Obstruction of the pelvis even in cases of large fibroids is rarely noted. When however obstruction is present caesarean section is indicated before there has been much manipulation and the uterus treated according to the extent of the disease, hysterectomy usually being necessary. Early interference is advisable in cases presenting multiple growths and infectious processes during the puerperium. As a rule hysterectomy is indicated as soon as the growth is known to be infected.

N SPROUT HEALY

Norris G. R: Ovarian Neoplasms Complicating Pregnancy and Labor. *Am J Obst* 1913 lxxvii 429
By S. R. G. & Obst

Serious complications either during pregnancy labor or the puerperium may be expected in 25 to

30 per cent of all cases, and from 16 to 20 per cent of the pregnancies will terminate prematurely. Comparing operation to expectant treatment, Norris finds that expectant treatment of an ovarian tumor discovered during pregnancy carries a danger to the mother three times as great as that of early operation. If operative interference occurs prior to the fifth month of pregnancy the chances of saving the fetus are three times as great as those of expectant treatment. An ovarian tumor whether abdominal or pelvic in situation recognized prior to the first half of pregnancy should always be removed without delay except when cardiac kidney or other grave systemic condition contraindicates a general anesthetic. In such cases as promise obstetrical complications the use of local or nitrous oxide and oxygen or spinal anesthesia is justified. The abdominal route is always to be preferred since the vaginal route shows a larger number of abortions.

The frequency of accidents to tumors situated in the abdominal cavity and the relative ease with which they may be removed without disturbing the uterus and without inducing premature labor justify their immediate removal at any period of pregnancy. In the interest of the child pelvic bound tumors first discovered after the middle of pregnancy should be under continuous observation and so long as there are no symptoms of danger their removal may be delayed until just before term with the expectation of securing a living child at that time.

An abdominal tumor if not a mechanical obstacle may be guarded against its greatest danger during labor namely rupture by early and skillful obstetric interference. The patient having been delivered safely the tumor should be removed during the puerperium upon the slightest evidence of torsion or inflammatory reaction. Tumors obstructing the birth canal call for early and definite surgical treatment. Attempts at reposition should only be made by an experienced man and then only when prepared to perform an immediate abdominal operation. The best treatment for an ovarian tumor obstructing the birth canal is abdominal ovariectomy. In clean cases the removal of the tumor is advised preceded by a classic caesarean section. If in doubt as to the patient's chances from infection of the uterus that organ is then to be removed supravaginally and the stump a chored extraperitoneally in the incision.

N SPROUT HEALY

Sellheim H: Artificial Interruption of Pregnancy and Sterilization in One Session by the Abdominal Route (Schwangerschafts Unterbrechung und Sterilization einer Sitzung im abdominalen Wege). *Monatsschr f Geburtsh Gynäk* 1913 xxiv 66

By Sellheim H, d. Gynäk. Geburtsh. u. d. Grenzgeb.

When the artificial interruption of pregnancy and sterilization is necessary it may be accomplished either in one or two sessions. It is more desirable

however that it be done in one operation as in this way the necessity for two anesthetics is avoided. The author's method of choice is laparotomy which consists in opening the abdomen and uterus removing the products of conception cleansing the uterine wall and resecting the tubes. The uterine and abdominal wounds are then closed. The advantage of this method lies in the short duration of the operation the prompt evacuation of the uterus and in the certain prevention of conception in the future.

WIKER

Lassen Möller E: The Treatment of Haemorrhage from the Placental Site Placenta Praevia and Accidental Haemorrhage in the Later Months of Pregnancy. *Tr. Internat. Cong. Med. Lond. 1913 Aug.* By Surg. Gynec. & Obst.

The discussion is limited more particularly to accidental hemorrhage. A table giving a detailed summary of 20 cases is appended. The conclusions drawn are as follows:

1. There are two genetically different forms of accidental hemorrhage. One is caused by a trauma and the other by an intoxication of the same kind as that which causes albuminuria eclampsia and eclampsia.

2. The inflammatory and degenerative alterations which are sometimes observed in the placenta the decidua, and the uterine wall are not characteristic of accidental hemorrhage and may occur under other circumstances as well.

3. The extensive bleedings in the uterus (apoplexie utero placentare) observed by Couvelaire and other authors are probably characteristic of the eclamptic form of accidental hemorrhage.

4. It is possible by rational treatment to reduce mortality of mothers considerably.

5. The common obstetrical treatment should be employed in the beginning cases of accidental hemorrhage.

6. The plugging of the vagina may be of value in some cases but the author has no confidence in it.

7. The value of rupturing the membranes can be estimated only after trying it in special cases. In many instances it is sufficient and for the other cases it does not prevent later operations.

8. Exceptionally in severe cases with closed cervix the caesarean section is the safest and quickest method of removing danger.

9. It is not necessary to remove the uterus except in cases where it does not contract and the bleeding still continues after the removal of the ovum.

CAREY COLBERTSON

Stroganoff W. Remarks Relative to Freund's Article "On Eclampsia and Its Treatment on the Basis of 551 Cases" (*Emine Bemerkungen über den Artikel von Prof. Freund über Eklampsie und ihre Behandlung von Freund von 551 Fälle*). *A. ch. f. Gynäk.* 1913, cix 445.

By Zentralbl. f. d. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Stroganoff details his views as to the treatment of eclampsia and criticizes the view and statistics

given by Freund in favor of the active therapy. The most important points are these:

1. Infant mortality. Freund entirely disregards 24 perforations without mentioning whether they were performed on living or dead children. He includes all the cases of puerperal eclampsia and finally he speaks only of stillborn children excluding all those who died during the first days or week of the puerperium as a result of the operative interference. In reality therefore his infant mortality averages 21.4 per cent and not 11.5 per cent as stated by Freund as compared to Stroganoff's own mortality of 12.2 per cent with conservative treatment. 2. Zweifel reports 35 cases, and not 25 as stated by Freund of combined treatment with venesection and Stroganoff's method also. He does not state whether in all cases of primary venesection Stroganoff's treatment was employed also. 3. The author decidedly denies that the prophylactic treatment is inconvenient basing his declaration upon his own experience which included nearly 100 cases. The operative mortality at the Chanté is high (121/21 = 17 per cent of which 4.13 per cent can be positively attributed to the operation itself). 5. Freund considers the narcotic therapy unreliable yet employs pantopon himself during transportation of the patient. 6. Bumm's results with the prophylactic method are not conclusive as only 16 cases were treated. 7. The author does not consider it correct to speak of a narcotic therapy as the decrease in total symptoms and increase of the urine and the disappearance of the coma surely are not narcosis. 8. When an irritability is spoken of as the cause of eclampsia then a therapy which does away with this irritability ought to be the rational one. Freund speaks of the increased irritability yet considers the Stroganoff method as the most irrational. 9. The demand of Freund to deliver the woman at the latest one hour after the first convulsion is nearly impossible as quite frequently the first attack is seen only by the midwife. Therefore cases in which the convulsions are due to other causes may be forcibly delivered as cases of eclampsia and further may deliver a patient who perhaps as is often the case has had only a single convulsion in the hurry of delivery as sepsis may suffer.

The author gives statistics showing that the maternal and infant mortality with the prophylactic treatment is just one half of that where operative treatment is employed.

In conclusion the author states that Freund bases his statement upon assumptions and neglects the facts, and he cites also the results of other authors as Roth Leopold Kapferer Aronig Zoepitz and Zweifel.

SIXTART

Good F L. Caesarean Section Its Indication. Report of Twenty Cases. *Boston M. & S. J.* 1913, cliv 345.

By Surg. Gynec. & Obst.

Caesarean section was performed by the following relative indications:

Intrimal fibroid of uterus in a primipara
 Primiparous placenta previa
 Primiparous antepartum hemorrhage
 Threatened eclampsia in a primipara
 Primiparous prolapsed cord
 Primiparous transverse presentation
 Primiparous breech presentation
 Arm presenting in front of head in primipara
 Primiparous O D P
 Twin pregnancy
 Old primipara
 Labor complicated by previous ventral hernia

intestines were not injured but there was serous fluid in the abdominal cavity and the uterus, as large as a child's head was opened throughout its entire length. The uterine walls were sutured with silk and a drain inserted. A drain removed the third day. An abscess of the abdominal wall developed also infiltration of the parametrium on the right. The fever lasted 6 weeks and the patient was dismissed eight weeks after the operation. On the day when the birth was expected the patient who had had no pains cut herself with one powerful stroke of a razor severing the abdominal wall and the uterus. She said she felt no pain. She answered a question and fell unconscious. The child was drowned in the vessel on which she sat. In 1912 she became pregnant again. In the lower third of the scar a hernia developed and gradually became larger. The birth occurred at normal time. Soon after labor commenced the pains became feeble and extract of hypophysis and secacorum were administered. The birth was spontaneous followed in 15 minutes by the spontaneous delivery of the placenta. No hemorrhage occurred and no unusual pain.

HORST TIXE

The six remaining cases comprised 1 para each of whom had been delivered of a stillborn baby following either a hard forceps or version delivery two of whom had a conjugate diameter of 3 3/4 inches and three a conjugate of 3 to 3 1/2 inches. One has had a second caesarean section.

The author gives a brief history of each case explaining his relative indication. He believes that the caesarean cicatrix is no more susceptible to rupture than normal uterine muscle. C. H. DAVIS.

Heinricius, G. Caesarean Section in a 47 Year Old Primipara (halserschnitt an einer 47 jährigen Erstgebärenden). *Funk Litz schilt Handl. Helsingfors* 913 ix 763.
 By Zentralbl. f. d. ges. Gyn. u. Geburtsh. u. Grenzgeb.

In the case cited by the author the last menstruation occurred about five weeks after marriage the first foetal movement being noticed five months later. The woman was 47 years old the husband 70 years old. Labor pains began at the normal time, the discharge of the amniotic fluid, one and a half hours earlier. The true conjugate was 8.5 cm. The patient wanted a living child but as the pelvis was narrow and the mouth of the uterus after a day and a half of severe pains would open only enough to admit one finger the vaginal wall was rigid and the cervical walls hard and unyielding and as the patient showed no symptoms of infection caesarean section was performed two days after the beginning of pains. The method preferred in the hospital that of incising the lower uterine segment was carried out. The child weighed 3100 gms. Recovery was uneventful. This is the twenty-sixth case of caesarean section with incision in the lower segment of the uterus performed in the hospital. BJÖRCKENHEIM.

Pat k R: Strength of Peritoneum and Uterine Sutures After Caesarean Section Reported by the Patient Herself (Ein Beitrag zur Widerstandskraft des Peritoneums und der Uterusnaht nach Sectio caesarea von P. Kuntz selbst ausgeführt). *Z. f. allg. Gynäk.* 913 xxviii 1105.
 By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

In 1909 a patient was admitted to the hospital in Vienna in an unconscious state with an incised wound 15 cm long in the midline of the abdomen from which coils of the intestine protruded. The

Scipiadus, E.: Hebestomy and Preperitoneal Caesarean Section (Hebestomie und präperitonealer Kaiserschnitt). *Abhandl. u. d. Geb. u. d. Gynäk.* 913 ix 576.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

The author compares the results obtained with the preperitoneal caesarean section to those of hebestomy on his own material. Hebestomy. The maternal mortality of the operation is not greater but the injuries resulting the morbidity the duration of the puerperium and the permanent injuries are greater. Injuries to the bladder are best avoided by the Döderlein method those resulting from the sudden giving of the pelvis by the Walcher position and by reinforcing the trochanters. In severe grades of contracted pelvis in marked disproportion of the head and inlet and in rigid external genitalia hebestomy is to be avoided. In the presence of marked varicose hemorrhage is to be expected and it is advisable to operate on the other side. In 12 cases a hematoma formed six times.

All patients operated upon 12 hours after rupture of the membranes or in the presence of temperature up to 37.5 C had fever during the puerperium. Of the children 86 per cent survived, the causes of foetal death being trauma to the head by the bony edges of the pelvis, asphyxia, and intrauterine death. The late results in 12 cases were: One woman after suffering and limping severely died six years later from renal disease the bladder fistula having closed after two years. One died two years after from septicaemia. 9 women are healthy. 17 women became pregnant eight times subsequently. The ends of the bones have become mobilized in all but one instance.

The conditions necessary for hebestomy are in multiparae absence of infection atactness of the

lower segment absence of varicosities good soft parts and if possible no attempts at high forceps extraction The sacro iliac joint should be protected no drainage employed and a fixing bandage should be applied In regard to the operations performed in the interest of the mother preperitoneal caesarean section showed only a greater morbidity The relation between the foetal head and the size of the pelvis must be determined from the nature of the uterine contractions as version could be performed twice by the author as against one operation in the presence of intact membranes with a conjugata vera under 8 cm Once there were signs of thinning of the lower uterine segment with only one finger dilatation Latzo's method with a longitudinal incision should be used as the Pfannenstiel incision does not increase the space The procedure is easier if the bladder is filled but it should be emptied before the peritoneal reflection is loosened and brought out of the way To prevent peritoneal tears a careful longitudinal incision should be made, while blunt dissection and care must be exercised when the peritoneum is reflected Filling of the bladder and elevated pelvis position will obviate the necessity of loosening the peritoneum too high The excellent convalescence is due to the fact that the bowels are not exposed and that the uterine incision is low down

Drainage if necessary should be carried out through the vagina Three subsequent pregnancies in these women were terminated by caesarean section later accompanied by tubal sterilization

MORR

Scherer A Th Value of Bacteriological Examination in the Treatment of Abortion (Lehet-e rinyado bakteriológia vizsgálata eltelések kez-
lésében) Orvosi Heti Budapest 931 337
By Zentralbl f d ges Gynaek u Geburtsh d Grenzgeb

The author made bacteriological examinations of the lochia of sixty cases of afebrile abortions and obtained the following results Haemolytic streptococci were found in eight cases non haemolytic streptococci in sixteen staphylococci in twenty colon bacilli in two pseudo-diphtheria bacilli in one and various other bacteria in four In nine cases the lochia were sterile

Winter's method of treatment is not acceptable in general practice because (1) the results of the bacteriological examination do not give a positive indication (2) in most cases the physician is called on account of profuse haemorrhages and he cannot therefore postpone the treatment for the two or three days that are necessary to obtain a result from such an examination (3) the duration of treatment is materially lengthened, and (4) the entire procedure is too complicated for practical purposes

The treatment of cases with haemolytic streptococci and their control by means of repeated vaccinations cannot be carried out by the general practitioner

T. KROVST

LABOR AND ITS COMPLICATIONS

Kemp D C Ovarian Cyst Exposed per Vaginam During Delivery by a Midwife Landed Lond
973 clxxxv 865 By S rg Gynec. & Obst

The author gives a brief history of a Tamil Mohammedan woman aged 20 in whom an ovarian cyst which weighed 1 lb 10 ozs escaped through a rent in the posterior fornix to the left of the cervix The intestine was pulled out during the examination made to determine the nature of the tumor The patient recovered following the removal of the tumor

C H DAVIN

Kroner M Birth in Cases of Occipital and Dorsal Meningocele (Über den Geburtsweg bei occipitalen und dorsalen Meningocelen) Berl s Geburtsh u Gynäk 93 363
By Zentralbl f d ges Gynaek Geburtsh d Grenzgeb

The author cites cases collected from the literature and two of his own at the Rostock University Clinic and points out that occipital and dorsal meningocele is not only a serious complication in labor but that it is an important factor in causing facial and frontal presentations

HOML

PUERPERIUM AND ITS COMPLICATIONS

Von Reding A An Unusual Case of Diffuse Necrosis of the Puerperal Uterus (Ein ungewöhnlicher Fall ausgedehnter Nekrose des puerperalen Uterus) Cor M f Kreis Arz 93 1 65
By Zentralbl f d ges Gynaek u Geburtsh d Grenzgeb

Von Reding reports the case of a patient in whom he removed the placenta by Crédé's method one hour after labor The patient had a severe haemorrhage and became almost pulseless and very anæmic. She recovered however but eight days after labor an internal examination was made on account of high fever and a putrid discharge The parametria were negative The uterus was the size of a child's head hard movable and not tender to pressure The cervical canal was about one and a half inch in diameter and a mass was felt above the internal os which entirely filled the uterine cavity This was firm in consistency had an uneven surface and was intimately adherent to the uterus An abdominal total extirpation was performed eleven days post partum The patient died almost immediately after leaving the operating room

On microscopical examination of the uterus an external firm and an internal porous division of the uterine wall could be seen The external half was normal and not infiltrated but the internal porous half was necrotic with fatty degeneration of the muscle fibers and blood vessels In spots a purulent infiltration of the muscular layer was noted The endometrium was completely absent A few remnants of the placenta were found at the posterior uterine wall So firmly were they united to the uterine tissues that they could be distinguished only by the microscope No decidua formations were seen

HARM

Watkins, T J: Puerperal Infection A Study of Some of the More Important Features of the Disease, with a Review of the Cases Treated During the Last Eight Years. *Am J Obst N Y* 1913 LXIV, 439 By Surg Gynec & Obst

In this article the author reports his results in the treatment of 100 cases of puerperal infection such as come to the hospital in a large city. Ninety one patients recovered and nine died. Seven of the fatal cases were hopelessly ill with generalized peritonitis on admission. One had large multilocular abscesses which though incised and drained terminated in peritonitis and death. One was a case of pyemia with metastatic abscesses. The effect of outdoor treatment is especially emphasized. Supportive measures, good food sleep and elimination are the main points in the therapy.

He tersely summarizes the subject as follows:

- 1 Puerperal infection is essentially a systemic disease and the treatment should be chiefly general.
- 2 The only general treatment of established value as yet is the use of remedies to increase the body resistance and thus favor and hasten the development of systemic immunizing bodies.
- 3 Retained products of conception should be left to escape spontaneously except in case of hemorrhage, when gauze packing should be used to hasten separation of retained tissue and to stimulate uterine contractions.
- 4 Pelvic inflammatory exudates usually disappear by absorption. Only exceptional cases require incision and drainage.
- 5 Suspected cases of free pus in the abdominal cavity indicate vaginal section to determine the diagnosis and the indications for treatment.
- 6 The treatment which remains in quite general use is much more dangerous than the disease.

V SPEDAT HEAVY

Gröne Metritis Dissecans Puerperalis (Metritis Dissecans Puerperalis) Versamml d Nord chir Vers n Kopenh 1913 By Zentralbl f d Ges Gynäk G burtsh d d Grenzgeb

The patient was a primipara 28 years old who was delivered spontaneously without internal examination being made. A small episiotomy had been performed which healed normally. A few days later the patient was seized with fever and the discharge became foul. There were no subjective symptoms but a definite anemia was present. Twenty two days after delivery the uterus was perforated during an intrauterine examination and was immediately extirpated. The patient recovered. Upon section the uterus showed smaller and larger areas of necrosis which in some parts almost reached to the serosa.

Microscopically extensive necrosis was found and the connective tissue showed extensive round cell infiltration. No decidua or other signs of mucosa were present and nowhere could be found cells of foetal origin. The interesting part of this case is the fact that it probably was a case of auto infection.

S A GARDENLOFF

MISCELLANEOUS

Goldstine M T: Hemorrhage in the New born. *Ill med J* 1913 XXI 170 By Surg Gynec & Obst

The author discusses the etiology and treatment of this condition, and reports a series of cases treated by injection of horse and human serum and of whole undiluted human blood.

The writer's technique for securing blood and keeping it has been as follows. A large vein is secured in the arm near the elbow and a good sized needle inserted. The blood is allowed to flow into test tubes large enough to hold 50 cc and with a wide mouth so that the serum can be easily withdrawn from the tube with a syringe that will hold 15 to 20 cc of serum. One test tube has been as a rule a sufficient dose for one injection and need not be used again. This protects the blood against infection that might occur if a large bottle were used and the cork removed several times. When whole blood is used it is withdrawn with a syringe and quickly injected into the patient. The injections were made subcutaneously into the back, just below the scapula. The following conclusion were drawn:

- 1 The etiology is still doubtful.
- 2 The use of blood serum is a great and decided advance over the use of drug.
- 3 Human serum is to be preferred to animal serum as it does not produce any undesirable symptoms, may be used as often as necessary and does not sensitize the patient against the administration of more serum.
- 4 Injection of serum is better than transfusion as transfusion is a very difficult procedure and one transfusion does not always stop the bleeding.

C D HOSKIN

Weidenbaum G: Prophylaxis of Bleorrhoea Neonatorum (Zur Bleorrhoeoprophylaxe am Neugeborenen). *St Peter b med Zisch* XXXVII, 134 By Zentralbl f d Ges Gynäk Geburtsh d Grenzgeb

The author puts forward prominently the blessing of Credé's method in the prevention of ophthalmia neonatorum as a result of which this disease has almost entirely disappeared from institutions. In contrast to this is the fact that ophthalmia neonatorum has not decreased. An investigation ordered by Credé Horder showed that 12.39 per cent of the inmates of thirty large institutions for the blind in Germany lost their eyesight from bleorrhoea. The causes for this according to the author are an increase in the spread of genital diseases, the rapid growth of large cities, etc. The silver preparations used have the disadvantage of instability. The irritations produced by the use of silver nitrate are due to its decomposition which may be prevented by the addition of potassium nitrate. A 10 per cent solution of potassium nitrate is not irritant to the conjunctiva. Weidenbaum recommends tablet of 0.1 silver nitrate and 0.1 pot nitrate which is easily soluble in water.

JACKEN

7 Labor seems to be rendered more difficult and prolonged in the cases following trachelorhaphy and to be made easier and shortened after amputation

8 Conception is just as frequent following amputation of the cervix as before

Engelhorn E The Modification of the Hæmoglobin Catalase During Pregnancy the Weichardt Reaction (Über die Beeinflussung des Hamoglobinkatalysators der Schärfer'schen Weichardt'sche Reaktion) *Mitschr. med. Wochenschr.* 1913 1, 1205

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Using Weichardt's method for determining the difference in the catalyzing power of blood in pregnancy and in the non pregnant state the author finds that the titration figures for the former were higher than those for the latter. His observations were obtained from 108 cases. A case of eclampsia described is very interesting. At the beginning of the attack the titer was higher than that of the non pregnant state (305/205). As to whether in severe eclampsia there is an inhibition of the catalyzing power of the blood has yet to be determined. Normally the catalyzing power of the blood is increased in pregnancy. GRAEFER.

Veit J The Serum Diagnosis of Pregnancy (Die Serodiagnostik der Gravidität) *Berl. klin. Wochenschr.* 1913 1, 24

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Veit is entitled to a place in the development of the Abderhalden reaction for it is he who suggested the migration of placental elements into the maternal blood. He substantiated Abderhalden's observation even for early cases of pregnancy and considers the reaction a valuable diagnostic aid. The reaction has a placental origin; the ovum need not be alive nor even present—all that must be present is living placental tissue. The reaction with cobra-toxin and of precipitins is quite analogous, and it is positive in animals in which the chorionic villi are not immersed in the maternal blood. Here the chemical elements of the chorion epithelium pass through the lymphatic into the maternal circulation. SEROV.

Schiff E Is Abderhalden's Dialysis Method of Use in Differential Diagnosis? (Ist das Abderhalden'sche Dialysenverfahren differential-diagnostisch verwertbar?) *Deutsche Gesellschaft f. Gynäk. Halle, 9. 3. 13*

By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

Abderhalden's dialysis method is of special importance in differential diagnosis. Forty-nine cases of which the clinical diagnosis was not known were examined by it. They comprised early and advanced pregnancies, chloasma genitalium, morbus adnexalis, eclampsia, abortion, puerperium, etc. The reaction was always positive in pregnancy and always negative in the non pregnant cases with the exception of two cases in which

the sera were not in a good condition because of hemolysis or prolonged exposure to the temperature of the room. In twelve cases the behavior of pregnancy serum towards carcinomatous tissue was investigated. In all of them the reaction was negative.

Heaney N S and Davis G H: Abderhalden's Test of Pregnancy. *Am. J. Obs. N.Y.* 1913 1, 420. By Surg. Gynec. & Obst.

In this article is given the experience upon which the test is based, the technique of the performance of the test, a résumé of the literature and the results of the authors' experiments.

Twenty-eight individuals were tested by the dialysis method, 17 according to the latest technique. Of the 75 were healthy non pregnant individuals, one of whom reacted positively. Of 7 pregnant women 2 failed to react. Of 5 puerperal women 2 were from the late puerperium and reacted negatively, the others were early and were positive.

The authors also tested the digestive action of a series of pregnant and non pregnant sera upon a peptone solution and placental suspension. Serum was mixed with the peptone solution or placental suspension under sterile precautions and, after incubation, an increase in amino acids was tested for by the formalin method of Sorensen-Rouche. No digestive action could be demonstrated when placental suspension was used, though the sera came from pregnant patients. When peptone solution was used a variation in the peptolytic activity of the various sera was demonstrated, though this variation was not dependent upon the gravid or non gravid state of the patient.

Lichtenstein Abd. halden Serum Reaction (Zur Serumreaktion nach Abderhalden) *Wochenschr. med. Wochenschr.* 1913 1, 147

By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

Lichtenstein finds the dialysis method satisfactory. He examined the sera of 4 cases of pregnancy, including 6 tubal pregnancies and 4 eclampsias and 34 cases of non pregnancy. Three tests were properly made and are therefore excluded. The reaction disappears during the third week of the puerperium. All cases of non pregnancy gave negative results. Umbilical blood and spinal fluid failed to reduce placental or clamptic placental tissue. Eclamptic serum reduced eclamptic and normal placental tissue very rapidly. The action of normal serum was not very different from that of ephrits in pregnancy, when reacting on normal or eclamptic placenta. The amniotic fluid of the non eclamptic and ascitic fluid from the non pregnant gave negative reactions. In spite of the exactness of the reaction one should not be governed solely by it in making a diagnosis. The author's observations substantiate Abderhalden's claim that it is not necessary to have a flood of chorionic villi in the maternal circulation to get a positive reaction. GRAEFER.

Mayer A: The Therapeutic Use of the Normal Serum of Pregnancy (Über die therapeutische Anwendung von normalen Schwangerserum) *München med. Wochenschr.* 1913 ix 14
By Zentralbl. f. d. ges. Gyn. u. Geburtsh. d. Grenzgeb.

The author suggests the use of the normal serum of pregnant women in cases of intoxication during pregnancy. He then discusses the successful use of such serum in cases of dermatoses and eclampsia. In the latter he now gives the serum intradurally instead of intravenously. He made this change in the administration because these patients have such marked cerebral symptoms. Serum therapy can be applied also to puerperal sepsis.

Since many puerperæ have hæmolytic streptococci in the lochia without symptoms the author holds that their sera are analogous to those of convalescent cases of sepsis. Three cases he believes substantiated this assumption. He uses the serum also in gynecological hæmorrhage and anaemia.

RUGER

Fuchs A: Experiences with Pituglandol in Obstetrics (Erfahrungen mit Pituglandol in der Geburtshilflichen Praxis) *Ztschr. f. Geburtsh. u. Gyn.* 1913 lxxv 517
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author used pituglandol in six of his obstetrical cases once each in atony in an old primipara with frontal presentation, in breech presentation with early rupture of the membranes in an artificial premature labor as an adjuvant after the introduction of a bougie in placenta prævia lateralis to hasten rupture of the membranes and in a ten weeks abortion to hasten expulsion of the products of conception.

In all of these cases except the last one the injection was always accompanied with definite success and never with any detrimental effect upon the mother or the child. The author injects 1 ccm of pituglandol intramuscularly and warns against overdosing to which he attributes the observed cases of cramp like contraction of the cervix after injections of hypophyseal extract. Since several authors have reported a lowering of the foetal heart rate after an injection of the extract it is not advisable to employ it in threatened cardiac weakness except when ready for immediate extraction. In cases of atony in which there is prolonged contraction of the cervix it is advisable to administer morphine or pantopon to put the uterus at complete rest before giving the injection of pituglandol. In the employment of the extract during the early puerperium all unnecessary handling of the uterus is to be avoided in order to prevent untimely contracting. SIEMER

Watson B P: Pituitary Extract in Obstetrics and Practice. *Cad. M. A. J.* 1913 739
By S. E. G. & Obst.

Watson gives credit to Bell for being the first to use pituitary extract in obstetrics. He discusses the anatomy and physiology of the gland and the action

of its extract. He prefers the intermuscular injection and a standardized dose. Several cases are reported in detail where the extract was used opportunistically in slight pelvic contraction in persistent occipito posterior position of the foetal head in twin pregnancy in induction of labor and in placenta prævia. The author regards its use favorably also in post partum abdominal distention and in urinary retention thus avoiding enemata and catheterization. His conclusions are:

1 Pituitary extracts have a powerful effect in inducing and strengthening uterine contractions.

2 The type of contractions induced is similar to the normal although at first there may be a tendency to prolongation of the pains.

3 Such prolonged contractions result in the slowing of the foetal heart but the child is seldom in danger.

4 When given in the late part of the first and in the second stage of full time labor the polarity of the uterine contractions is not interfered with but in early abortions and in the first stage a simultaneous spasm of the os may occur.

5 The chief field of usefulness of pituitary extract is in the first and second stages of labor when there is delay due to feebleness of the pains alone or combined with other complications such as malpositions of the head malpresentations, multiple pregnancy slight narrowing of the pelvis etc.

6 In the induction of abortion in the treatment of abortion already in progress and in incomplete abortion, its action is so uncertain that it is not to be recommended except in cases where the os is widely dilated.

7 In the induction of premature labors its effects are uncertain but if sufficient dosage be given they may be good.

8 In the induction of labor at full term and after better results are obtained than in premature cases.

9 Pituitary extract gives good results in many cases of post partum hæmorrhage but is not superior to the various preparations of ergot. It has however the power of sensitizing the uterus so as to allow these preparations to act more powerfully and the combination is most effective.

10 It is a useful adjunct in the treatment of placenta prævia used in conjunction with rupture of the membranes the use of hydrostatic dilators, or turning.

CAREY CULBERTSON

Poplisk I L: The Hypophysis and Its Active Principle (Hypophyse und ihre Präparate in Verbindung mit ihren wirksamen Substanzen) *Berlin. Wochenschr.* 1913 56

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Substances increasing and decreasing the blood pressure are found in the hypophysis. Pituitrin and pituglandol increase the blood pressure while physin decreases it. All these substances however have been used with good results to stimulate labor pains. It is remarkable that substances which in their physiologic action are directly antagonistic to

each other should cause the same action on the uterus. It must be emphasized that so far not a single reason is known why these substances excite labor pains. If the hypophysis acts in this manner then the same action must be expected from all the other organs which contain vasodilatin as well as vasohypertensin. The author is very skeptical about the question of the stimulation of labor pains by hypophysis extracts. Grs

Spalding A B The Value of Abdominal Measurements in Pregnancy. *J Am M As* 93
In 746 By Surg Gynec & Obst

The author has reviewed over two thousand records in reaching his conclusions. The measurements were made with a tape measure one hand being placed on the upper border of the symphysis and the other on the ensiform cartilage. The uppermost margin of the fundus of the uterus was located and read off the tape. An effort is made in this paper to estimate the value of these measurements in so far as they relate to the size of the unborn child and to the probable date for delivery. The author discusses also the various rules laid down by other men in the past few years.

In a table presented is shown the weights of babies taken immediately after delivery in a series of 300 labors where the total uterine axis was carefully observed. In 157 the fundus measurements were between 34 and 37 cms and the average weight for the babies lay between 3275 and 3395 gms. These figures are considered a rough standard for average normal babies. In eighty five cases, in five of which there was twin delivery the fundus measured between 38 and 43 cms and the average weight for the babies was between 3555 and 4100 gms. These figures are considered the standard

for over maturity. In fifty-five cases the fundus measurements were found to be 29 and 33 cms and the average weight for the babies between 2125 and 2930 gms. This is the standard for im perfectly matured babies.

With experience one can utilize these measurements to advantage in certain cases of toxemia, nephritis, heart-disease etc to determine the best period for the induction of premature labor or of the advisability of inducing labor at term. Unfortunately however the possibility of error in exceptional cases precludes the utilization of these measurements in the management of contracted pelvis. This is due to the fact that the weight of the child with the same abdominal measurement may vary in exceptional cases as much as 1 or 2 kilos. A great deal depends upon the care with which the measurements are made on the condition of contraction or relaxation of the uterus the skill in estimating the degree of settling the thickness of the abdominal walls and the accuracy in diagnosing such conditions as hydramnios and multiple pregnancy.

In another chart the author presents measurements of the uterus made at various weeks of pregnancy in a series of 411 cases. These patients gave birth to babies of normal weight within seven days of the expected time according to Naegle's rule. For measurements of this kind the following rule is given. Measure with a tape measure the height of the fundus above the symphysis in centimeters making allowance for settling when present and add to measurements between 22 and 26 cms 3 to measurements between 26 and 30 cms 4 to measurements between 30 and 32 cms and 5 to measurements over 32. The sum will equal the probable week of pregnancy.

EDWARD L. CORSELL.

GENITO-URINARY SURGERY

KIDNEY AND URETER

Luckach F Recent Examinations of the Adrenal Capsules (Neuere Untersuchungen über die Nebennieren) *Prag med Wchnsch* 1913 xxviii 363
By Zentralbl f d ges Chir u i Grenzgeb

The adrenal capsules of horses and cattle fed to rats proved to be poisonous particularly the adrenalin (marrow substance). On 90 cadavers the adrenalin content was determined according to Follin's method. In acute infections the adrenalin was not decreased in diphtheria and nephritis it was increased and in chronic infections (tuberculosis cranial hemorrhage and tumors) it was diminished. An examination of the results obtained by Robinson who claimed that he could determine the sex of the foetus from the adrenalin content of the urine of the mother does not yet permit any definite conclusions. The article closes with the report of two cases of adrenal tumors. WISSEL

Gradinescu A V: The Influence of the Suprarenal Capsules upon the Circulation of the Blood and the Metabolism (Der Einfluss der Nebennieren auf den Blutkreislauf und den Stoffwechsel) *Arch f d ges Physiol* 93 ch 187
By Zentralbl f d ges Chir u i Grenzgeb

In numerous experiments with cold blooded animals and mammals that are reported in detail by the author the influence of the extirpation of the suprarenal capsules the extirpation of the adrenal capsules and the administration of adrenalin was determined. The results obtained were as follows. The removal of both capsules in one operation caused death within 10 hours in the case of dogs in 48 hours in cats and in 7 hours in rabbits. The extirpation of one adrenal capsule was not fatal. After total extirpation of the adrenal capsules the number of erythrocytes in the peripheral blood rises slowly to double the amount this is the result not of a new formation of red blood corpuscles but of the transgression of large quantities of blood plasma into the tissues and serous membranes. The examination of the physico-chemical properties of the plasma reveals no changes and the quantity of water contained in the muscles remains unchanged. The blood plasma with all its components therefore goes over into the tissue. Furthermore the total extirpation of the adrenal capsules effects a decrease in the interchange of gases without changing the respiratory quotient. The nitrogen quotient shows an inclination to sink the temperature of the body sinks considerably the lymph circulation is retarded the lymph formation is diminished. Adrenalin injections, on

the other hand effect an increase of the discharge of lymph from the ductus thoracicus a rise in temperature in normal animals and death from hyperthermia. Extracts and adrenalin affect also the endothelium of the blood vessels because the infiltration of the connective tissue effected by artificial circulation in the frog is prevented by these substances. If adrenalin is brought into the artificial circulation or directly upon the tongue or mesentery of guinea pigs it causes a contraction of the blood capillaries and retardation or inhibition of the circulation. From the abolition symptoms and changes caused by adrenalin the author concludes that the adrenal capsules serve as regulators of the intermedial metabolism. The metabolism between blood and tissue depends upon the changes in the lumen of the capillaries caused by the secretive products of the adrenal capsules and the contraction of the endothelium. SALLÉ

Childs S B and Spitzer W M: Röntgenographic Study of the Normal Kidney Its Pelvis and Ureter *J Am Med Ass* 1913 lxv 925
By Surg Gynec & Obst

Diversity of opinion as to interpretation of skiagrams of kidney warrants fixing a standard by study of a group of normal cases. By normal cases are meant cases with negative history absence of genito urinary symptoms, and giving negative findings in urinalysis and for all points above ureteral orifice negative findings on cystoscopy and ureteral catheterization.

Technique. Röntgenographic catheters col largol 8 to 20 per cent gravity pressure of two feet using 50 ccm burettes injection to the point when pain is complained of varying from 4.5 to 15 ccm (greater volume being considered pathognomonic) stereoscopy with uniform focus and röntgenographic technique.

Findings. Mobility (excluding respiratory) 0 to 3.5 cm. Pelvis either single or double calices number 3 to 6 upper border convex lower concave absence of concavity abnormal. Catheter clings to convex border. Ureter shows wide variations in size contour and position kinks angulations and apparent constrictions in normal cases. Alterations may be due to variations in tone. Laxity marked in multiparae. Pain shock and temperature the result of overdistention, especially rapid distention and not so much dependent on the drug or percentage. Care in injection will reduce these difficulties so as to provoke no disagreeable complications. Emphasis laid on stopping injections at onset of pain.

For after treatment he recommends morphine

and small doses of whisky well diluted the last as diuretic. The report includes 10 ca es (20 kidneys) with table and slligrams. **LOUIS L. TEN BROEK.**

Braasch W F: Clinical Observations on Essential Hematuria. *J Am Med Ass* 1913, Vol 936
By Surg Gynec & Obst

The term "essential" is applied here only to those cases in which there is neither clinical evidence of renal insufficiency visible organic change in the renal parenchyma nor evidence of renal infection.

Braasch analyzes 77 cases from the Mayo clinic, of which 26 were operated upon. Males were affected in 75 per cent of the cases most of them occurring between the ages of 40 and 50. The right side was involved in about two thirds of the cases. Hematuria had begun over fifteen years previous to the time of the operation in 19 per cent of the cases but in most cases it was of about a year's duration. In the unoperated cases the time of onset was considerably more recent. The physical findings were negative as regards the kidneys. The blood pressure averaged 132 and the hemoglobin 65 per cent in the operated and 84 per cent in the unoperated cases. Urinalysis showed in addition to blood a few casts and pus cells in some.

The author discusses at great length the differential diagnosis. Other lesions to be considered are chronic nephritis infectious nephritis bleeding pyelitis neoplasms renal tuberculous lithiasis and renal varix. Differentiation in all of these conditions would appear to be possible.

Nephrectomy has cured fourteen cases. Nephrotomy gives far less satisfactory results. The results of palliative treatment consist merely of catheterization of the affected side with or without the injection of methylen blue a colloidal silver salt or epinephrin gave permanent relief in but four cases. In the others, hematuria appeared again.

In the matter of treatment Braasch lays special emphasis upon the difficulty and importance of deciding upon the presence of a mild and early renal neoplasm. When the hematuria has incapacitated the patient, or when neoplasm is regarded as possible exploration is indicated. The good results obtained from nephrotomy would justify its use in the absence of negative findings in the kidney.

The etiology is carefully considered. Nephritis seems now to be regarded by most authorities as the probable causative factor. But in Braasch's opinion the evidence against this is sufficient to enable us to exclude it in most cases. A satisfactory explanation of this type of hematuria is yet to be given.
J DELLER BAKER

Casper L: The Diagnosis of Bilateral Nephrotuberculosis (Zur Diagnose der doppelseitigen Nierentuberculose). *Deutsche med Wochenschr* 913 22 16
1140 By Zentralblatt f d ges Chir u Gynaegeb

Before the Berlin Surgical Society Ca gave a brief review of the progress made in the diagnosis

and treatment, especially of renal tuberculous since the introduction of ureteral catheterization and functional kidney tests. The mortality of patients nephrectomized for tuberculous lately is only 2 per cent. In spite of this success, however the present views must further be revised principally in regard to the diagnosis of unilateral or bilateral kidney tuberculous. The former view that a sediment free and apparently normal urine which proves to be tuberculous in the guinea pig inoculation must originate in a tuberculous kidney no longer holds good. From his own experience and from careful investigations of Killeuth Casper regards the fact as proved that pure excretory tuberculous can occur only when nephritic symptoms are also present because the nephritic kidney in contradistinction to the healthy kidney is permeable for tubercle bacilli. Hence the former radical standpoint that in kidney tuberculous the finding of tubercle bacilli in the urine of the second kidney forbids an operation must be modified so that the presence of tubercle bacilli produced by a slight nephritis of the one kidney is not a contra indication for a nephrectomy of the other. Only when the tuberculous process of the second kidney is absolute settled by the regular and abundant finding of leucocytes and erythrocytes as well as by the diminished function of the second kidney is an operation to be avoided.
DEWEES

Kapsammer G: Tuberculosis of the Kidney
Am J Obst Gyn 1913 Vol 439
By Surg Gynec & Obst

From a review of the literature and an analysis of 62 cases of his own Kapsammer deduces that tuberculous of the kidney is as a rule, unilateral that men suffer from it more frequently than women and that it is found on one side as frequently as on the other. The first symptom and oftentimes the only one is bladder difficulty. Hematuria is one of the more infrequent symptoms of the disease and is more frequently seen in the early than in the later stages. Kapsammer believes that many of the essential hematurias are a reality cases of very early tuberculous exploration of the kidney even failing to clear the diagnosis because of the smallness of the lesion.

Pus is regularly found in the urine but when the urine is alkaline the chances are against tuberculous.

Pain is not constant in the symptomatology and may even lead to suspicion of the unaffected kidney when the tuberculous kidney may be producing no pain. The chief and most exact method of diagnosis is cystoscopy with catheterization of both ureters since the diagnosis is only complete when the condition of both kidneys has been accurately determined. Nephrectomy is the only therapeutic measure to be considered unless high temperature and prostration prevent due to secondary infection when primary nephrotomy is indicated. Nephrectomy also exists as an indication when other non flound foci exist elsewhere and even may be

considered in the presence of tuberculosis of the opposite kidney providing the disease is not extensive enough to prevent its proper functioning
N SPROAT HEANEY

Rupperecht: Tuberculosis of the Kidney and Bladder Including Urogenital Tuberculosis (Über N ren und Blasen-tuberkulose ein schies-lich der Urogenitali be kulose) *W nchen med W chensh* 1913 15 459
By Zentralbl f d ges Chr i Grenzgeb

Tuberculosis of the kidney is caused not by an ascending infection from the genital tract but by a hamatogenous infection from some extrarenal tuberculous focus. It is the larger emboli which contain numerous tubercle bacilli that produce kidney tuberculosis the circulating bacilli are excreted. Usually only one kidney is involved but in one half of the cases the other one becomes affected later probably also by the hamatogenous route. More rarely tuberculosis of the kidney spreads by the lymph stream to the perinephric tissues or to the retroperitoneal lymph glands much more frequently it spreads downward involving the ureters and bladder. Its development is insidious and without symptoms at first. Its symptoms for a long time point to the bladder and not to the kidney as the seat of the trouble. At first there is polyuria and pollakiuria later tenesmus and pyuria. In such cases careful bacteriological and urological examinations are necessary and if the other kidney is found healthy the diseased kidney should be extirpated. Left untreated kidney tuberculosis causes death in five to ten years by involving the bladder the opposite kidney etc.

Apparent spontaneous cure may occur in rare cases as the result of obliteration of the diseased ureter and gradual encapsulation and atrophy of the closed tuberculous kidney. Usually however these patients finally die of bladder involvement nephritis of the other kidney etc. Several nephrectomized women later bore healthy children. If the secondary bladder tuberculosis has not advanced too far at the time the nephrectomy is performed it frequently heals spontaneously as does the tuberculous ureter that is left behind. Tuberculin injections have not proved of value in renal tuberculosis but after nephrectomy it has frequently aided in overcoming the remaining tuberculosis of the mucous membrane of the ureter and bladder. Patients suffering from renal tuberculosis are open cases. Numerous bacilli are excreted in their urine and they therefore are infectious.

RUNGE

Wildbois H Th Surgery of Tuberculosis of the Kidneys (Chirurgie der Nierentuberkulose) *New engl J Chr* 93 71
By Zentralbl f d ges Chr i Grenzgeb

Chronic tuberculosis of the kidneys appears frequently as a independent or primary disease al

though from the anatomo-pathological standpoint in particular it must be regarded almost always as a secondary disease. In 10 per cent of the cases of tuberculosis of the kidneys the affection is bilateral. At the beginning however chronic tuberculosis of the kidneys is almost exclusively unilateral. Usually the disease appears first in the papille of the marrow and the adjoining areas of the pelvis of the kidney soon become involved. In the advance stage groups of tubercles are to be seen upon the surface of the kidney.

As to the pathogenesis Steinthal's old theory that the kidney is infected through the blood system is now generally accepted and there is no doubt that the disease spreads down the urinary tract as was suggested by Baumgarten.

In the diagnosis the examination of the urine is of greatest importance. albumin pus and blood are often found though sometimes only in small quantities. The examination for bacilli when performed carefully gives positive results in about 90 per cent of all cases. The usual and best test is the carbol-fuchsin stain. The antiformin method has only a little advantage if the urine is alkaline and mucous. Tubercle bacilli and smegma bacilli cannot always be differentiated from each other because as Kolly's experiments have shown some of the smegma bacilli like the tubercle bacilli can not be discolored with alcohol. The smegma bacilli however lie single or in loose groups and Koch's bacilli are seen in some places at least, in very close bunches. The guinea pig test is the best indicator for the presence of tubercle bacilli. When a tuberculous infection of the urinary tract has been ascertained positively it remains to find out which side is affected and how far the disease has spread. This can be done only by cystoscopy and catheterization of the ureters. Urine separators are unreliable. By cystoscopy a decision may often be made as to which kidney is diseased from the condition of the orifices of the ureters and their surroundings. There are however some observations (Lapsammer and Rovsing) which show a diseased orifice of the ureter on the sound and healthy side of the bladder. Which side is diseased to what degree the diseased side is affected and whether the function of the sound side is normal can be determined from a microscopical examination of the urine obtained by catheterization and a functional diagnosis of the kidney.

The prognosis is usually bad. The author found that in Switzerland more than half the number of cases not operated upon died five years after the beginning of the disease. The therapy for chronic tuberculosis of the kidneys should be early nephrectomy especially as the disease is only unilateral at the start and does not spread downward until later. A tuberculous kidney cannot be cured with tuberculin. Kummel, the author and others have had to operate in cases which had been treated with tuberculin and declared cured by internists.

The primary mortality after nephrectomy for

tuberculosis is 4 per cent or less and the fatal cases are mostly complicated with pneumonia, myocarditis, embolism or meningitis. The secondary mortality is about 25 per cent and in these cases death is usually caused by phthisis. The total mortality of cases operated upon is about 10 to 25 per cent in contrast to the 60 per cent mortality in cases not operated upon. After operative treatment of chronic tuberculosis of the kidneys 75 per cent of the patients live for many years and more than half are permanently cured. The local influence of nephrectomy upon the bladder and the ureter depends upon the degree to which the disease has advanced at the time of the operation. Pus or bacilli in the urine disappear only after months or years. The vesical troubles also disappear slowly and in some patients never completely. Irrigation of the bladder as an after treatment should be omitted as it gives rise to irritation of the vesical walls. Instillations of 3 per cent iodolol oil or sulmaline solution are often of value. After the tuberculous has been cured the nephrectomized patients are as well as those with both kidneys normal provided they are not exposed to dangers and overexertion. In 25 early cases the author's therapy was exclusively conservative from the beginning. In 15 of them however operation had to be performed later on because the conservative treatment had been without results.

The article contains many interesting details in regard to the pathology, clinical diagnosis and therapy and also a voluminous bibliography.

CHITAGAKI

Zollinger F. Traumatische Nephritis (Beurteilung zur Frage der traumatischen Nephritis). *Schweiz. P. woch. f. Med.* 29. 3. 1928, 83.
By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The author distinguishes between trauma which results in rupture of the kidney by general bodily injury and chronic trauma such as is caused by excessive athletic exercises. Traumatic albuminuria frequent and may be caused by hemorrhage and circulatory disturbances which may lead to necrosis. There may be purulent nephritis from infection of the kidney through the intestine or the bladder or albuminuria from degenerative and regenerative processes in the region of the kidney wound. If there are edema, uræmia and retinal changes as well as albuminuria the diagnosis of traumatic nephrosis is justified. He reports cases from the literature in which the disease could be attributed to trauma. Unilateral cases of traumatic albuminuria and cylindruria are also observed. There is a possibility that an occult kidney disease existed before the injury and that the trauma merely brought on an exacerbation. In cases of unilateral trauma the possibility of a secondary sympathetic involvement of the other kidney must be considered. The author discusses course, prognosis, and treatment with a thorough consideration of the literature bearing on these points.

A. HERRMANN

Dratton H. O.: Hydronephrosis with Report of Cases. *Ohio St. M. J.* 1927, 12, 418.
By Surg. Gynec. & Obst.

Literation reports two cases in which an attempt was made to determine the existence of hydronephrosis in its early stage before the cordation gave rise to a palpable tumor with a dilated pelvis and a thinned cortex.

The author points out that in order to diagnose hydronephrosis early one must have recourse to more exact information than can be obtained from the general symptoms, physical examination, and the routine examination of the urine. The use of such general methods alone will often make it difficult to differentiate an early hydronephrosis from such conditions as calculus of the kidney or ureter, acute infection of the kidney and such extrarenal conditions as inflammation of the prostate and seminal vesicles. The symptoms of these latter diseases being not infrequently similar to those caused by a hydronephrosis.

According to the author a diagnosis of early hydronephrosis must be based on convincing evidence of increased capacity of and obstruction to the renal pelvis. Such evidence is obtainable by measurement of the capacity of the renal pelvis and by an X-ray examination when the pelvis is distended with sulfur salt.

The author proceeds as follows. Both ureters are first catheterized usually with a No. 7 catheter and while the cystoscope is still in the bladder a warm dilute solution of argyrol is injected into the kidney by gravity. After measuring the renal pelvis the cystoscope is removed leaving the catheter in place. Next a functional test with phenolsulphophthalein is made over a period of 15 to 30 minutes and separate specimens of urine are also obtained for microscopic study. Following this an X-ray is taken to exclude renal or ureteral calculus after which the pelvis is distended with 22 per cent collargolium and another picture taken to determine the size and position of the renal pelvis, ureteral kinks and the angle at which it enters the pelvis.

Of the 12 cases studied 7 showed typical colic, 4 showed pus blood or both microscopically and in only 3 cases was there a marked impairment of functional capacity as shown by the phthalein test. The capacity of the diseased kidney ranged from 20 to 100 ccm as compared to an average of about 11 ccm on the healthy side.

Forsman Reconstruction of Cystic Kidneys, with a Contribution to the Knowledge of the Pathogenesis of Cystic Kidneys (Rekonstruktion von Cystenieren, zugleich ein Beitrag zur Kenntnis der Entstehung von Cystenieren). *Beitr. z. Pathol. Anat. u. allg. Pathol.* 9. 3. 1928.
By Zentralbl. f. d. ges. Chir. Grenzgeb.

The question whether cystic kidneys, provided that the cysts are not interpreted as cystadenomatous formations but as retention cysts are

produced by interruption of the canalization as a consequence of congenital malformation or constriction or depend on inflammatory processes can be solved by the reconstruction method. For this investigation only such cystic kidneys are suitable as those in which inflammatory changes are absent. On such a kidney the author could show that all cysts are retention cysts and that the interruption of the canalization occurs at various points along the collecting tubules. The cystic transformation was not localized in a certain part of the canal. It occurs where the resistance of the tissues is slight because of the loose character of the tissues but also in collecting tubules which are closely surrounded by connective tissue. Here the increase of the intracanalicular pressure leads to the dilatation.

FRANZENHEIM

Hohlweg, H. Further Data on the Treatment of Pyelitis by Lavage of the Renal Pelvis (Weitere Erfahrungen über die Behandlung der Pyelitis mit Nierenbeckenspülungen). *M. d. chm. med. W. ch. schr.* 931 43

By Zentralblatt für ges. Chir. u. Grenzgeb.

The author briefly discusses the various methods of treating pyelitis. Lenz's therapy that is the intake of large quantities of fluids to irrigate the pelvis of the kidney from above, the prescribing of urinary antiseptics, vaccination therapy, the Meyer-Betz method of raising the acidity and concentration of the urine. It is emphasized that with all these methods only a limited number of cases are bacteriologically cured and that by the active treatment by means of direct irrigations of the pelvis of the kidney a much higher percentage can be cured. Of the 17 cases reported, 15 became free from symptoms of pyelitis and were discharged clinically as well as bacteriologically cured. The late results based on cases examined as late as two years after they had been discharged showed that the benefit derived was permanent. Nothing is accomplished however by irrigating those cases which begin as an infection of the renal pelvis with the colon and in which the inflammatory process has involved the kidney tissue so that the albumin content of the urine is higher than can be accounted for by the pus.

As irrigating solution the author uses principally silver nitrate solutions increasing the strength from 1 to 2 parts per 1000 to $\frac{1}{4}$ or 1 per cent. The reaction locally of the tissues and the sensitiveness of the patients to these solutions vary considerably. Irrigations were done two to three times a week, and after two to three weeks treatment in the hospital the patients were discharged. Naturally the best results follow early treatment which should be instituted as soon as the condition is recognized.

OZOLLEN

Villard and Ferrin. Kidney Transplantation (Transplantations rénales). *Lyon* 4 913 29
By Journal de Chirurgie

This article is a general review of the technical results of experimental autoplasmic homoplasmic and

heteroplasmic transplantation of the kidney to which the authors add their own experiments only the original part of the work being reviewed.

They do not believe in the profuse preliminary washing of the kidney with Locke's solution as advocated by Carrel. They think it does more harm than good and tends to immobilize the liquid blood in the kidneys; they merely put the forceps on the renal artery and vein. This interruption of the circulation can be kept up for an hour and a half without causing necrosis. As the implantation of the ureter in the skin was followed by a fatal ascending infection they found it necessary to graft the ureter into the bladder. This makes it necessary to select the vessels on which to graft in the abdomen or pelvis and prevents them from transplanting onto the large vessels of the neck, which is easier technically. Implantation on the renal vessels themselves which would be the most satisfactory is possible but very difficult on account of the shortness and depth of these vessels. The pelvic vessels seem to be the vessels of choice.

The authors have tried auto-homo and hetero transplantation with results as follows:

In autotransplantation three experiments on dogs resulted in two failures from thrombosis of the vessels and gangrene of the graft. Transplantation was on the renal vessels on the opposite side in one case and on the pelvic vessels in the other. One successful case was that in which the implantation was made on the external jugular with the ureter opening on the skin. The transplanted kidney secreted pale urine without albumin but containing 2.8 per cent of urea. This secretion was continued until the death of the animal 68 days later from another operation. Histological examination of the kidney showed diffuse ascending pyelonephritis without any trace of necrosis.

In nine experiments of homotransplantation on dogs, none showed really complete success. Twice there was fatal hemorrhage from slipping of the vascular sutures, one of these transplantations having been on the external iliac vessels and the other on the splenic vessels and twice there was almost immediate thrombosis. In one of these cases the graft was made on the renal vessels and the other case was a graft en masse of the two kidneys in front of the cava. In another instance of graft in mass of both kidneys, the animals died quickly before the cause of death was determined. In four cases — one of implantation on the renal vessels and three on the great vessels of the neck — there was gangrene or absorption of the graft but in three of these cases the kidney had secreted urine for a few days.

In heterotransplantation three experiments tried with no success whatever were: a graft en masse of the kidneys of a cat on a dog; graft of the kidney of a pig on the cervical vessels of a dog; and of the kidney of a dog on the cervical vessels of a goat. In the latter case re-establishment of circulation in the transplanted organ and necrosis did not

take place for 30 days the ureter had not passed a drop of urine.

Villard and Perrin's experiments confirm the results of other workers who have attempted kidney grafting by vascular transplantation. In spite of the continued failure of heterotransplantation they think it would be permissible to try it in selected cases on man if the operation is harmless. The kidneys of an animal as closely related to man as possible should be selected, that is, one of the higher forms of monkey. Langer has done this in one case but without success.

LEO HUNT

Brazeau W R: Experimental Studies of the Diagnosis of Kidney Function (Experimentelle Beiträge zur Frage der funktionellen Nierendiagnose). *Archiv für die gesamte Medizin* 1934; 11: 1-16. By Zentralblatt für Chirurgie, Leipzig.

According to extensive experiments by Brazeau the indigo-carmin and phenolsulphonaphthalein tests are alike in their results, and the phlorizin test is not identical with them.

In order to examine these tests comparatively and to determine the localization of the excretion of indigo-carmin and phlorizin from the kidney, he performed a series of experiments on dogs. In the first series 4 to 5 ccm of alcohol were injected into the kidney. When the lesion was in the cortical substance the indigo-carmin output was most decreased. When it was in the medullary substance the sugar output was the most affected. In the second series of experiments wedge-shaped pieces of kidney tissue weighing from 5 to 17 gms were removed. A decrease resulted in the amount of urine, the molecular concentration, the percentage of solid constituents as the sugar content and the intensity of the indigo-carmin coloring. In the third series the cortical substance was removed from the surface of the kidneys. The more the cortical substance removed the greater the decrease in the urine. A decrease occurred also in the molecular concentration, the indigo-carmin coloring, the urea content and the sodium chloride content. The phlorizin content in some cases was normal in others a little increased. In the fourth series which included four cases 3 to 4 gms of medullary substance were removed. No more could be removed on account of the danger of injuring the large blood vessels. This amount of urine the concentration, sugar, the urea content and the indigo-carmin coloring decreased the latter less than in the preceding series. In the fifth series which included five rabbits and ten dogs indigo-carmin was injected into the veins. After 12 to 30 minutes both the normal and the injected kidney were extirpated. It was shown that the coloring matter was excreted from the cortical substance and from the epithelium of even the injured tubules. The excretion did not take place simultaneously from all the tubules, but there were alternating periods of activity and rest in different groups.

Brazeau comes to the following conclusions. The

liquid part of the urine is excreted from the malpighian bodies of the cortical substance. It cannot be absorbed by the medullary substance. The solid constituents including the salts are excreted from the epithelium of the urinary tubules. The sugar phlorizin test is excreted in the medullary substance probably from the epithelium of Henle's loops. The urea is excreted from the epithelium of the urinary tubules. In interstitial nephritis the excretion of sugar and indigo-carmin is hindered chiefly by the formation of connective tissue which binds the epithelium of the tubules to the endothelium of the capillaries. In parenchymatous nephritis the excretion of these substances is normal because of the slighter changes in the epithelium and the lower excretion of fluid. The indigo-carmin and phenolsulphonaphthalein reactions are more valuable than the phlorizin test because they localize the anatomical lesions more accurately. In the indigo-carmin test the intensity of the coloring is the most important point. If one kidney is normal the degree to which the other is affected may be determined by catheterizing the ureters and comparing the coloring of the two sides. In the phlorizin test a comparison of the sugar percentage of the two kidneys is valuable. Casper's modification is not reliable. Both the phlorizin and indigo-carmin tests should be made as they supplement each other. Pyelotomy is to be preferred to nephrotomy because every incision through the kidney results in a considerable destruction of kidney parenchyma.

HASSE

Young F L: Clinical Functional Tests. Methods. *Bohn's Medical Dictionary*, 1934, 1512, 466. By Surg. Assoc. & Obst.

The author discusses the place of the phenolsulphonaphthalein test in nephritis and concludes that the phenolsulphonaphthalein test comes nearest to fulfilling all the requirements of a clinically valuable functional test in that it is easy to use, is harmless to the patient and gives accurate and consistent knowledge of the actual working ability of the kidney. It is a fact that the practitioner wants more than the knowledge of whether the glomeruli or tubuli of the kidney are affected. In surgery it already has a recognized place. In medicine it has a certain value which will increase with its increased use.

FRANK HINCH

Gersaghty J T and Rowntree L G: The Value and Limitations of Functional Renal Tests. *J Am Med Ass* 1934, 9: 3, 190. By Surg. Assoc. & Obst.

The authors discuss functional renal tests with reference to their judicious selection for obtaining the needed information in any individual case by the use of a single test or a proper combination of a small number. They divide the tests into two groups, those which determine functional capacity by showing the excretory ability through a determination of various substance in the urine such as

the many dyes and other chemicals as potassium iodide lactose sodium chloride urea sugar and enzyme diastase and those which indicate renal function through the retention of certain substances in the blood as ions determined through electrical conductivity molecules determined through cryoscopy urea incoagulable nitrogen and cholesterol

Of the dye group only one need be employed and this should be phenolsulphonaphthalein on account of its proved superiority. A selection of the other tests should be made with reference to the three great types of renal disease (1) Unilateral and bilateral diseases necessitating ureteral catheterization (2) bilateral surgical diseases secondary to obstruction in the lower urinary tract and (3) medical diseases of the kidney

Tests with reference to the first group should show three things (a) The total or combined renal function without ureteral catheterization (b) the relative function on (c) the absolute functional value of each kidney. The authors consider the phenol sulphonaphthalein test as incomparable so far as a total function is concerned and in cases in which it is very low advise the use of one or another of the retention tests

In ureteral catheterization two difficulties are met viz inhibition of function and leakage around the catheter. A previous total phthalein determination will detect any discrepancy due to inhibition. However inhibition is not always equal on each side and in this case diastase and urea percentage together with a difference in urinary pigment with a consideration of the total phthalein previously obtained will be of value. In the case of leakage around the catheter the catheterization can either be repeated using a Garceau catheter on one side and collecting transvesically on the other or when this is not practical the desired knowledge may be largely obtained from the original specimens through urea percentage diastase and the time of appearance of the phthalein on the two sides. Here the diastase is more reliable since it is not affected through dilution

In the second group the total function is the only information needed and the phthalein test if repeated at intervals in the course of the preliminary treatment will indicate the most favorable time for surgical intervention. However in this group of cases with a low phthalein tests of retention are of great importance and the authors consider blood urea as determined by Marshall's method as most valuable for indicating cumulative phenomena

In medical cases the tests fall into two groups those attempting to differentiate between tubular and glomerular lesions and those to determine total function. At present so little is positively known or proved concerning the specific function of any individual part of the kidney that any attempt to divide nephritis is premature but tests for total renal function in this group are of undoubted value. The authors divide medical cases for functional work

into (1) Cases clinically suspected of nephritis but exhibiting practically normal renal function (2) mild cases of nephritis without cardiac decompensation (3) advanced nephritis without cardiac decompensation (4) Cardiorenal cases and (5) chronic passive congestion in cardiac cases unassociated with nephritis

With reference to uremia the authors claim that functional studies will indicate that it is impending even when its proximity is not suspected from clinical studies. They claim that a continued failure on the part of the kidney to excrete phenolsulphonaphthalein lactose etc associated with the continuous marked and increasing accumulation of urea or total incoagulable nitrogen or low serum freezing point indicates the early appearance of uremia regardless of the underlying pathological condition

In conclusion they state that functional studies always find their greatest value when associated with careful clinical studies and when properly employed, yield most valuable information from the point of view of diagnosis and prognosis and in the selection of the lines of treatment.

FRANK HICKEY

Fitz, R : Tests for Renal Function Based upon the Selective Excretory Activities of the Kidney *Boston M & S J* 19 3, clux 384

By Surg Gynec & Obst

Fitz describes the technique of the lactose water salt and iodide tests as applied to determine the selective excretory renal function and discusses the value of the information thus obtained in the diagnosis prognosis and treatment of nephritis. Abnormal tubular function is shown by the inability of the kidney to increase the concentration of the salt in the urine, when an excess of salt is added to the diet and by a delay in the excretion time of potassium iodide

Abnormal glomerular function is shown by the inability of the kidney to excrete lactose in the usual time and quantity. Furthermore abnormal glomerular function is of two types. The vessels are either hypersensitive as shown by a constant polyuria increasing in response to the vascular stimulus of salt or hyposensitive as shown by a constant oliguria. The tests are of considerable quantitative value. In general, the severity of functional derangement shown by them corresponds with the clinical and anatomical severity of the disease. Cases studied by these methods can be grouped functionally into glomerular nephritides tubular nephritides and a mixed form which shows functional derangement of both systems.

FRANK HICKEY

Christian, H A : General Summary of the Significance of Methods of Testing Renal Function *Boston M & S J* 19 3, clux 468

By Surg Gynec & Obst

The functional tests are summarized by the author with reference to their value in diagnosis

prognosis and treatment of renal conditions. They are of great value in diagnosis in surgical conditions of the kidney but a functional lesion and an anatomical lesion must be distinguished as a decrease in functional activity is not always accompanied by a demonstrable anatomical lesion. The repeated application of the tests will help to determine this point as for example between a true nephritis and a renal disturbance consequent upon cardiac decompensation or between functional derangement following urinary retention and an actual diffuse renal lesion secondary to urinary stasis along with chronic infection. In cases of this kind the phenol sulphonephthalein test has proved the most helpful but only through its repeated application.

In cases of coma of difficult diagnosis the determination of nitrogen retention in the blood is considered by Christian of greater value than that of phenolsulphonephthalein.

The other methods of testing renal function which depend upon the selective activity of glomerulus tubule or blood vessel do not at present justify a very accurate pathological diagnosis of the renal condition although their application has materially advanced our ability in this direction. In prognosis the author states that the tests are particularly applicable again in surgical conditions and that the phthalein test is the most applicable. He again emphasizes the repeated use of the test. In case of nephritis more remote prognosis is better aided by other tests as water nitrogen salt and lactose.

In all these cases it is not the single test made once that is of value but the repetition of several tests. In treatment Christian thinks that we are not in a position to evaluate functional tests as relatively little work has been done on their relation to therapeutic measures. In conclusion he states that the tests are of unquestioned value in renal disease "but they should supplement not supplant other ways of studying the nephritic

FRANK HEDMAN

Arceles: Radiographic Diagnosis of Calculi of the Pelvic Ureter (Calcul de l'urètre pelvien droit. Sur le diagnostic radiographique des calculs de l'urètre pelvien). *Lyon méd.* 93 45 760.
By Journal de Chirurgie

Arceles reports the history of a case where radiography showed a calculus on the right kidney a calculus in the upper part of the ureter and a calculus at the level of the pelvic ureter. On operation in 1910 no calculi were discovered. In 1913 the patient returned and the radiograph this time showed a shadow only in the right pelvic ureter not far from the uretero-vesical orifice. It was removed and the patient made an uneventful recovery. In connection with this case the author discusses the whole question of radiographic diagnosis of calculi of the pelvic ureter.

In every case the ureter should be catheterized in conjunction with radiographic examination. In some cases there is a shadow at the level of the pelvic

ureter. A sound is introduced and stopped by some obstacle and an X ray shows the end of the sound touching the calculus which is displaced upward. In such cases there is no doubt as to the diagnosis. The sound may pass freely into the ureter and the shadow of the sound and that of the supposed calculus do not touch. In such cases it is possible that there is a sufficient dilatation of the ureter to allow the sound to pass without touching. Collargol may be injected to determine whether the ureter is dilated.

Between these two extreme cases there are all sorts of intermediate conditions to be interpreted, and sometimes, even with the most careful examination complete diagnosis is not possible.

Sometimes calculi are impacted in the pelvic ureter. The plate shows the shadow of the sound in contact with that of the foreign body. It is probable that in such a case we have a true calculus but there is one source of error in that the sound may be arrested by a stricture of the ureter while the foreign body which causes the shadow is in another plane but in the same bundle of X ray.

Sometimes the sound passes freely and its shadow is superimposed on that of the foreign body. In such cases there may be a dilated ureter with the sound passing over or under it instead of to one side. An injection of collargol will overcome the trouble. But if there is a superimposed shadow without dilatation and without arrest of the sound we have to consider a diverticulum containing the calculus or a phlebolith of the perireteral veins or some foreign body situated outside the urinary passages. Caution is necessary in such cases all the clinical and radiological symptoms must be taken into consideration and sometimes it is even necessary to perform an exploratory operation.

Sometimes as in the case mentioned above the orifice of the ureter cannot be located. A radiogram is taken showing the ureteral sound touching the bladder wall at a point thought to be the ureteral orifice. The shadow of the calculus, however, shows the real location of the ureter and the direction of the sound is changed so as to reach it. This shows the absolute necessity for a close association between urinary surgery and X ray work. In hospitals in the past the X ray room has generally been at some distance from the operating and examining rooms of the genito-urinary service. In the future they should be located as close as possible to each other.

J. DUBOIS

Lorin: The Ureter after Nephrectomy (L'urètre après la néphrectomie). *Arch. anat. et de Médec.* 93 45.
By Journal de Chirurgie

Experimentally when the kidney is removed in a normal animal the lumen of the ureters remains open but at the end of a year the walls of the ureters are slightly atrophied.

It is difficult to know clinically what becomes of the ureter after a kidney operation. Lorin studied this question in a number of cases of nephrectomy.

both of catheterization of the ureters on the operated side and by examination of the contractibility of the ureter. He also removed the ureter from a woman who had had a nephrectomy performed two and a half years previously for tuberculosis. This ureter was transformed into a fibrous cord.

He concluded that the decreased ureter had a tendency to become obliterated after nephrectomy generally after about three years. Its mucous membrane disappears as well as the lumen. The contractions persist as long as the lumen is not obliterated.

The ureter of the removed kidney may be the origin of vesical hemorrhage (which generally occurs only during the first few days) of pyuria or of bacilluria. A return flow of urine from the ureter into the nephrectomy wound occurs only when the ureter is very badly diseased and has a large lumen and a rigid wall. A pathological ureter may be the cause of a post operative fistula in the kidney wound though such a condition is not always due to a lesion of the ureter. He thinks the simplest treatment of the ureter is best. It should be divided with the thermo-cautery at the lower part of the wound. This will give a good recovery without a fistula if the nephrectomy wound is completely closed and drained as little as possible. Removal of large sections of the ureters is useless and the various fixation of the ureteral stump troublesome.

MALRICE CHEVASSE

BLADDER, URETHRA AND PENIS

Kidd F. Purpura of the Bladder. *A. S. 17*
Phila. 19 3 Jan 388 By S. R. Gynec. & Obst.

Kidd reports a case of secondary purpura confined to the bladder but arising in a bacterial infection of the tonsil. The case was that of a 12 year-old girl with a history of a sudden desire to urinate and a sharp stabbing in the left iliac region spreading to the vulva. Examination showed deep tenderness over the bladder region urine full of blood clots. Cystoscopy showed healthy ureters and the bladder wall pale and healthy but scattered over the fundus and trigone were seen patches of submucous hemorrhages varying in size from a pin's head to a sixpence some linear some stellate neither ulceration nor milium tubercles present.

Differential diagnosis. Purpura of the bladder wall or primary blood infection or tuberculosis at its very onset. No tubercle bacilli were found the von Purket was negative.

The patient was kept in a recumbent position and calcium lactate in doses of 10 grains was administered three times a day for a week, when the patient was discharged as cured.

The interesting factor was cystoscopy for the condition resembled exactly a purpuric eruption found on the skin which cleared up like a simple purpura. This condition was unaccompanied by any other sign of hemorrhage either in the skin or any mucous membrane.

LOUIS GROSS

Lower W. E. The Treatment of Recurrent Malignant Tumors of the Urinary Bladder with the High Frequency or Oudin Current with a Report of a Case. *Cleveland M. J.* 1913
xii, 607 By Surg. Gynec. & Obst.

The author reports an interesting case of recurrence of malignant tumor of the urinary bladder which when first seen presents all of the characteristics of a typical papilloma. It was removed by the usual suprapubic operation which was followed by an uninterrupted recovery. The microscopical examination showed that the tissues contained definite carcinoma cells. Two years later there was a recurrent growth at the seat of the old tumor. This time the growth was treated by means of the high frequency current five applications being made. The tumor completely disappeared and at the time of writing two years later the bladder remains perfectly normal.

Héresco P. Total Cystectomy for Multiple or Infiltrated Neoplasms of the Bladder (De la cystectomie totale dans les néoplasmes multiples ou infiltrés de la vessie). *J. d. m. 19 3 p. 69.*
By Journal de Chirurgie.

The author has treated four cases successfully by operation. One lived ten another six months and the other two are well one two and one half years the other one and one half years after the operation. He believes this is an argument in favor of total cystectomy in such cases and for the implantation of the ureters in the skin of the hypogastric region.

He believes skin implantation is very much superior to intestinal or vaginal implantation because it permits of catheterization at will and of disinfection of the pelvis with antiseptic irrigations. Implantation in the hypogastric region is preferable to that in the lumbar region because the patient can catheterize and irrigate himself and one collector can be used for the urine from both kidneys.

Brief case reports are given as follows:

Case 1: A man of fifty with frequent and abundant hematuria anemia and lumbar pain. The latter was worse on the right. The cystoscope showed a tumor that occupied the whole fundus and had a large base on the left wall of the bladder. On the right wall were two small tumors near the apex. There was diffuse cancerous infiltration of the whole bladder. A median hypogastric incision was made lateral dissection of the bladder and dissection and section of the ureters without opening the peritoneum. The bladder and half of the prostate were removed. The ureters were fixed into the upper part of the wound and the hypogastric cavity was tamponed. While the wound was healing the pelvis of the kidneys were frequently irrigated with silver nitrate. Convalescence was complicated by a perinephretic abscess which was evacuated. The recovery was complete with no trace of recurrence after two and one half years.

Case 2: A man of fifty nine with a carcinoma occupying the trigonum and closing the left ureteral

orifice. The same technique was used in the case as in Case 1. Death occurred six months later with out recurrence but with signs of nephritis.

Case 3. A woman fifty with a very extensive degenerating papilloma covering the ureteral orifices. Same technique. Death at the end of ten months from pyelonephritis.

Case 4. A man of forty five. At first a palliative operation was performed by hypogastric incision partial excision of the tumor cauterization and drainage. Four months later total cystectomy. The ureters which were dilated to the size of the index finger were sutured to the skin. The cavity resulting from the extirpation of the bladder was drained through the perineum. The patient recovered and had had no recurrence a year and a half later.

The author calls attention to the advantage of drainage through the perineum and of dissecting the ureters before suturing them to the skin even though it involves some danger of gangrene.

J. TANTON

Kleiner I S: An Elimination Through the Mucosa of the Urinary Bladder. *J Exp Med.* 1913 xvii 31. By Surg. Gynec. & Obst.

Kleiner found very slight traces of dextrose in the urinary bladder after the intravenous injection of dextrose in nephrectomized rabbits. He concludes that the bladder is practically impermeable for diffusible substances that are present in the blood in great excess.

JAMES F. CHURCHILL

Lemoine G: New Operation for Making a Bladder after Total Cystectomy for Cancer (Création d'une vessie nouvelle par un procédé personnel après cystectomie totale pour cancer). *J d urol* 1913 7 366. By Journal de Chirurgie.

The various methods of procedure for disposing of the urine after removal of the bladder are discussed and Lemoine describes an operation of his own based on Heitz Boyer and Hovelacque's method of utilizing the rectum as a bladder. His method differs from theirs in that the ureter itself is used to discharge the urine as the external sphincter insures continence. The ureter had been transplanted so as to open into the rectum at a previous operation.

1. Abdominal operation. The rectum was incised a little above the promontory, taking care to avoid the superior hemorrhoidal artery. The rectal opening was carefully sutured in two layers and a suture passed through the sigmoid opening and left free. The sigmoid flexure having been freed by dissection of the mesocolon and incisions in the peritoneum at some distance from the intestine was lowered to the perineal floor into a space obtained by dissection of the posterior wall of the rectum and the abdominal wall sutured.

2. Perineal operation. The sacrococcygeal incision was carried to just above the sphincter of the anus, and the removal of the coccyx, dissection of the rectum and section of the levator ani and apo-

neurois followed. The sigmoid flexure was lowered by traction on the ends of the suture.

A transverse incision of the perineum to the posterior orifice of the ureter was made and by introducing the fingers through the penneal and sacral wounds the rectum was dissected circularly for a little way above the sphincter of the anus. The peritoneal cul de sac was cleaned out the posterior edge of the upper part was caught in a pair of forceps and the anterior edge of the lower part in another. This made it easy to invaginate the sigmoid flexure into the lower portion of the rectum. After having pulled on the suture and thus occluded it the orifice was fastened to the skin at the margin of the anus by means of silk sutures.

A sound introduced through the ureter was placed in the upper portion of the rectum which formed the new bladder. A penneal drain was introduced the penneal wound sutured and the sacral wound tamponed. The new bladder was thus drained through the ureter and the perineum entirely independently of the intestine.

The lowering of the sigmoid flexure however had been insufficient, so that it retracted into the sacral wound, the urine which should have been discharged through the ureter and the perineum was thus discharged into the sacral wound and at the end of a few days the dressings were soiled with urine mixed with fecal matter.

The suturing of the intestinal incision in the lower part of the rectum near the sphincter and the lowering of the intestine to the anus were unavailing and the patient died from infection the eighteenth day after the operation.

J. TANTON

Vander Veer J N: Some Aspects in Relation to Chronic Gonorrhoea from the Standpoint of Surgery and Eugenics. *N Y St J Med.* By Surg. Gynec. & Obst.

From a large experience the author has come to believe that physicians generally are not impressed with the grave effects of gonorrheal lesions and in consequence fail to make an absolutely accurate examination and diagnosis and do not effect cure. Carefully prepared smears of the urethral secretion, urinary and blood cultures, microscopic examination of the various constituents of the urine when voided in separate parts, endoscopic and cystoscopic examinations and inoculations into the guinea pig should all be made use of as conditions may suggest. Sometimes organisms present in the genito urinary tract may be present likewise in the blood, nose, tonsils and various other localized points and become sources of reinfection.

Publicity is absolutely essential and the day must come when the suppression of the gonococcus shall rank with that of the tuberculous bacillus and the mosquito. The medical profession should unite and work with the church to put on the statutes a law compelling registration of this disease and prohibiting the sale of drugs for it except on a physician's prescription. Moreover physicians must

compel themselves to be most painstaking and accurate in the diagnosis and treatment

Iowa and Maine alone require health certificates before issuing marriage licenses Iowa Vermont and Oklahoma list gonorrhea and syphilis as contagious diseases The necessity for immediate legislation to bring about an amelioration of the havoc wrought by these diseases is great

IIA BY D ORR

GENITAL ORGANS

Wolbarst A L. A Case of Spindle Celled Sarcoma of the Testis with Unusual Features
Med T me 9 3 275

By Surg Gynec & Ob t

The author reports a new case of tumor of the testicle and refers to one which he has already reported He gives a complete history of the new case which he reports and credits Hoffman with having made a diagnosis of a diffuse spindle-celled sarcoma Wolbarst describes the case as follows

When the writer through the courtesy of Lubman the attending physician first saw the patient on May 19 1913 three weeks after the growth was noticed by the patient the following data were noted The growth is soft but not fluctuating its longest diameter being five inches and its greatest transverse circumference eight and one half inches It is absolutely painless and without tenderness on pressure and resembles a hydrocele in its pear shape but is opaque when examined by the light test The inguinal glands on either side and the spermatic cord are not involved

Owing to the extreme rapidity of the formation of this large mass it was deemed prudent to withhold the positive diagnosis of malignant growth until the tumor proper could be examined on the operating table

We are pleased to know that Wolbarst has made a diagnosis of spindle celled sarcoma in a given case because we regard it as extremely rare—so rare indeed that we consider it an anomaly From the statistics which he has collected he seems to be able to show that the largest number of tumors of the testicle are sarcomata as reported by hospital statistics Ewing's article to which he refers would lead one to believe that this position is incorrect and that the diagnosis of tumors of the testicle in a large percentage of cases in the past have been incorrect The striking feature about the case described by the author is that there was no history of trauma or injury He says that in his case there was no pain but an extremely rapidly growing tumor

In conclusion the report is summarized as follows

The writer concludes desires to point out the following interesting and unusual features of this case (1) Its extremely rapid growth (2) its absolute painlessness (3) the absence of trauma or other visible etiologic factor (4) the unusual degeneration of the testicular substance (5) the comparatively rare form of the tumor spindle celled type

Picker R: The Anatomical Configuration of the Human Vesicula Seminalis in Relation to the Clinical Features of Spermocystitis. Urol & Cutan Rev 1913 21 463

By Surg Gynec & Obst

Picker has examined about 150 seminal vesicles by filling them through the vas deferens with Beck's bismuth paste to the maximum capacity (surgical fulness) after which he endeavored to disentangle the tube system Thus he secured 72 specimens 56 normal and 16 pathological the classification of which is given in the following table

A Simple straight tubes	2	4%
B Thick twisted tubes with or without diverticula	8	15%
C Thin twisted tubes with or without diverticula	8	15%
D Main tube straight or twisted with large grape like arranged diverticula	19	33%
E Short main tube with large irregular ramified branches	19	33%
	56	100%

F Various

- I Embryological abnormalities
 - Conduplication of ves seminalis (specimen A L)
 - Rudimentary seminal ves (specimen 59)
 - Ductus Mulleri persists (specimen B 17)
 - Vesicula seminalis covering ampulla (specimen 50)

Ductus ejaculatorius in the posterior wall of prostate (specimen 44)

These all belong to otherwise anatomically normal specimens

II Pathological conditions

Inflammatory cicatricial adhesions not to be disentangled cicatricial occlusions of both vasa etc (specimen 15)

Carcinoma vesicula seminalis (specimen I)

General total 72 specimens

The forms of the ampulla of the vas deferens secured by studying the X ray photographs are shown to be as follows

- 1 Simple narrow tube without diverticula
 - (a) Straight
 - (b) Twisted
- 2 The same arrangement of the vas deferens
 - (a) With small bud like diverticula
 - (b) With great diverticula
 - 1 Featherly arrangement
 - 2 Papillomatous arrangement (cauliflower like downy etc)
- 3 Ampulla with corpus diverticulare

When infected the straight single tubes of group A might not give rise to many complications

The infection of form B characterized by thick long screw like twisted tubes with or without diverticula might in case of acute inflammation be

accompanied by abundant pus formation and high fever. In these cases Picker has noted a very large inflammatory tumor extending to the ampulla of the rectum as well as strong subjective inconveniences originating in the bladder (subacute cystitis following inflammation of the seminal vesicle especially if residual urine can be excluded) and the rectum. In the given case he had to do with a disease of a vesicula seminalis of the type in which after disappearance of the alarming and acute symptoms the final cure of the disease takes place within an unexpectedly short time (3 to 4 weeks) by means of the complete evacuation of pus either in a natural way or through the massage treatment.

The rising of the pain is clearly to be explained by the anatomical configuration of the long and large twisted tubes, when these are filled to a maximum by the products of the inflammation. The best proof of the correctness of this conception is given by the immediate disappearance of the inconvenience attended by a pressing desire to urinate through the evacuation of the pus, the pain reappearing immediately after the tube system has been filled again to the maximum.

Administering this evacuation treatment as often as necessary (even three or four times daily) he states he has been able to definitely relieve the patients of their distress usually within one week, the patient very frequently emptying at one sitting pus quantities from 5 to 8 ccm and in one of his most remarkable cases, as much as 15 ccm of thick yellow pus.

These cases connected with such an abundant suppuration might also be similar to those in which by shutting off the draining of pus or by insufficient evacuation of the retention the morbid secretion makes for itself a path in the neighborhood of the vesicle and breaks down into the perivesicular and perirectal cellular tissue into the peritoneum (Douglass fold) or even into the rectum.

Form C is characterized by thin twisted tubes, with or without small diverticula.

In group D the main tube is straight or twisted with larger grape-like arranged diverticula.

The many diverticula and windings in the case of an infection predispose to retention.

The case mentioned in class 3 might belong to groups C and D.

A short main duct with large ramified irregular secondary branches are distinguishing features of group E. Picker would in the given case proceed as though dealing with a seminal vesicle belonging to this group when after the quieting down of the acute initial phenomena and the lysis of fever there is to be remarked an abundant draining-off of pus similar to group B but the final evacuation of the large and swollen seminal vesicle is only to be obtained after a systematic massage treatment extending over several months. During this treatment there are emptied, together with normal sago-formed seminal secretions, numerous long and thick pus-threads and plugs which in shape quite resemble the normal

sago-like secretions which are formed of leucocytes containing those bacteria which produce on interrupting the treatment the recurrence of urethral discharge and cystitis so often observed in the chronic urogenital ailments.

A. C. STOKES

Young, H. H. The Role of the Prostate and Seminal Vesicles in General Toxemia. *J. Am. Med. Ass.* 1913, 18, 1. By Surg. Gynec. & Obst.

Young says it is now becoming more generally recognized that the etiology of many obscure joint, cardiac, neurologic and other diseases is to be found in chronic infections in remote organs and in recent years the tonsil, nasopharynx and alimentary tract have come to be regarded as the frequent site of such infections. The extent to which the genitourinary tract is to blame has not been appreciated. Chronic prostatitis and seminal vesiculitis are extremely common diseases and may exist for years without producing symptoms or attracting the attention of the patient. They may show themselves only as a danger sign when the patient marries or becomes the subject of chronic rheumatism or other forms of remote infection and toxemia.

The etiology of these cases is by no means always gonorrheal. Many cases arise from bacterial infection which comes down through the urinary tract having been eliminated through the kidneys during acute infections in other parts of the body. Infections also reach the prostate from the rectum not infrequently as a result of proctitis, ulcer, hemorrhoids, etc. but more frequently they result from the long-continued practice of masturbation which in many cases produces an extensive chronic inflammatory process involving both the prostate and seminal vesicles and the tissues around them so that one frequently finds an extensive enlargement and pronounced chronic inflammatory condition associated with local and remote symptoms sometimes of severe character. The essential process is an endocervical and pericervical inflammation in the prostate and chronic inflammatory infiltration within and about the vasa deferentia and seminal vesicles.

Owing to the fact that all these structures drain badly being dependent on minute tortuous ducts and tubules foci of chronic inflammatory infiltration remain unrelieved for years often becoming surrounded by fibrous changes and remaining centers for the absorption of toxins and infections.

L. G. DWAN

Sasaki, J. Experimental Atrophy of the Prostate from X-Ray Treatment of the Testicles (Cher die experimentelle Prostatatrophie durch Röntgenbestrahlung der Hoden). *Deutsche Zeitschr. f. Chir.* 9, 3 ccm. 200.

By Zentralbl. f. d. ges. Chir. 1. Grenzgeb.

Sasaki wished to determine whether atrophy of the prostate could be caused indirectly by X-ray

treatment and what relation the changes in the testicle bear to those in the prostate. For his experiments he used five rabbits and four dogs, which were treated twelve to fifteen times for periods of from thirty-six days to five months. The testicles and prostates of these animals as well as those of eleven control animals of various ages and varieties were examined histologically. In three rabbits atrophy of the prostate was clearly evident both microscopically and macroscopically. In two dogs and two rabbits the atrophy was extreme. In the other animals it was not so pronounced. No case however escaped some atrophic change. Brown rabbits were more susceptible than black. In the dogs the changes were less than in the rabbits. Histologically there was either total atrophy or atrophy with degeneration especially round celled infiltration. The epithelium was decreased and the interstitial connective tissue increased. The muscular parts were atrophied. In rabbits the atrophy was complete in dogs the central part around the ureter was more changed than the peripheral part. Sasaki believes that he has demonstrated that roentgen rays applied to the testicles not only inhibit the growth of the prostate but cause retrograde changes in the fully developed organ. He discusses the histological changes i.e. the disappearance of the seminal cells and the enormous increase of the interstitial cells. He believes that X-ray treatment of the testicles is an effective therapeutic measure in hypertrophy of the prostate. Already a few clinical reports substantiate it. **ROBERTSON**

McCarthy J F Preliminary Report on Cystoscopic Operative Treatment of Early Intra-vesical Prostatic Intrusions and other Obstructive Conditions in the Region of the Vesical Sphincter. *Am J S g* 93 xvii 327
By Surg. Gynec. & Obst.

The author reports two cases in detail in which remarkable results were obtained by the use of the Oudin spark. Both patients were suffering from frequent micturition and in both there was an enlargement of the prostate glands. Vigorous applications of the spark were made a week apart for two or three treatments and in both cases marked improvement resulted within two weeks and an apparent return to normal was noted within four or five weeks after beginning the treatment. As the interval since the disappearance of the symptoms has been too short it cannot be said definitely that the cure is permanent.

The author emphasizes the fact that cystoscopic examinations should be made in all patients over fifty who present symptoms referable to the genito-urinary tract. He does not lay much stress on the rectal examination in these cases as the prostatic enlargement may not show there.

He emphasizes the necessity of estimating from a number of sittings, the amount of urine remaining after the patient empties his bladder as thoroughly as possible. He deems it an imperative necessity to

make a cystoscopic and posterior endoscopic examination of patients showing any appreciable amount of residual urine as in all likelihood it is at this time particularly, that these patients will prove amenable to suitable cystoscopic operative treatment. **EDWARD L. CORNELL.**

MISCELLANEOUS

Rubaschow S: Röntgenology in Urologic Surgery (D: Röntgenologie im Dienste der urologischen Chirurgie). *Ztschr f urol Ch* 1913 1 465
By Zentralbl f d ges Chir u i Grenzgeb

The presence or absence of perinephritic adhesions can be determined only by means of roentgenoscopy (Durchleuchtung). Collargol argyrol or oxygen injected into the bladder and renal pelvis facilitates the roentgenological examination aids in the diagnosis and with sufficient care is not dangerous to use. In the examination for floating kidney or hydronephrosis pyelography is indispensable. In the diagnosis of renal tuberculosis the examination has hitherto seldom been employed. Here again pyelography is of great value as it gives exact information as to the localization and extent of the disease. Collargol injection should be given with out pressure to avoid damage to the fragile renal parenchyma.

All the sources of error thirty two in number in the diagnosis of kidney stone are exhaustively considered. In 3 to 6 per cent (2 per cent — Immanuel) stones are found at operation which could not be demonstrated roentgenologically. The most important sources of error are the chronic indurative process in the kidney tuberculosis calcified lymph glands and intestinal stones. In the roentgenology of ureteral stones forty six sources of error are mentioned and thoroughly discussed in part. Fifty one roentgen sketches are included in this practical compilation. **FRA GENHEIM**

Foussion and Desnos: French Encyclopedia of Urology (Encyclopédie française d'urologie). Paris O Doyn 9 4
By Journal de Chirurgie

When this work of which the first two volumes have just appeared is finished it will without doubt be the most important and extensive contribution that has ever been made to the science of urology. The term encyclopedia is justified, for it is a thorough presentation of all that is known at the present time in regard to the urinary organs and their diseases.

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accompanied by abundant pus formation and high fever. In these cases Picker has noted a very large inflammatory tumor extending to the ampulla of the rectum as well as strong subjective inconveniences originating in the bladder (subacute cystitis) following inflammation of the seminal vesicle especially if seminal urine can be excluded and the rectum. In the given case he had to do with a disease of a vesicula seminalis of the type in which after disappearance of the alarming and acute symptoms the final cure of the disease takes place within an unexpectedly short time (3 to 4 weeks) by means of the complete evacuation of pus either in a natural way or through the rectal tube.

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Administering this evacuation treatment as often as necessary (in three or four times a day) he states that it has been able to find relief the patients of their suffering usually within one sitting. The patient frequently empties at one sitting pus quantities from 5 to 8 cm and in one of his most remarkable cases as much as 15 cm of thick yellow pus.

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spermatozoa like secretions which are formed of leucocytes containing these bacteria which produce on interrupting the treatment the recurrence of urethral discharge and cystitis so often observed in the chronic urogenital ailments.

A. C. STOUT.

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Young says it is now becoming more generally recognized that the etiology of many obscure joint, cardiac, neurologic and other diseases is to be found in chronic infection of remote organs and in recent years the tonsils, nasopharynx and alimentary tract have come to be regarded as the frequent site of such infections. The extent to which the genital urinary tract is to blame has not been appreciated. Chronic prostatitis and seminal vesiculitis are not merely common diseases and may exist for years without producing symptoms or attracting the attention of the patient. They may show themselves only as a dark secret when the patient marries or becomes the subject of chronic rheumatism or other forms of remote infection and toxemia.

The etiology of these cases is by no means always gonorrheal. Many cases arise from bacterial infection which comes down through the urinary tract. It has been claimed that through the kidneys during acute infection in other parts of the body infections also reach the prostate from the rectum. Not infrequently as a result of prostatic ulceration or thrombosis etc. but more frequently they result from the long-continued practice of masturbation which in many cases produces an extensive chronic inflammatory process involving both the prostate and seminal vesicles and the tubes around them. That one frequently finds an extensive enlargement and pronounced chronic inflammatory condition associated with local and remote symptoms sometimes of severe character. The essential process is an extensive and pernicious inflammation in the prostate and chronic inflammatory infiltration within and about the vasa deferentia and seminal vesicles.

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L. C. DWIGHT.

Sasaki, J.: Experimental Atrophy of the Prostate from X-Ray Treatment of the Testicles (On the experimentally Prostatatrophic durch Röntgenbestrahlung der Hoden). Dtsch. Ztschr. f. Chir. 93, 1913, 100. By Zentralblatt f. d. ges. Chir. u. Gyn.

Sasaki wished to determine whether atrophy of the prostate could be caused indirectly by X-ray treatment of the testicles.

treatment and what relation the changes in the testicle bear to those in the prostate. For his experiments he used five rabbits and four dogs which were treated twelve to fifteen times for periods of from thirty-six days to five months. The testicles and prostates of these animals as well as those of eleven control animals of various ages and varieties were examined histologically. In three rabbits atrophy of the prostate was clearly evident both microscopically and macroscopically. In two dogs and two rabbits the atrophy was extreme, in the other animals it was not so pronounced. No case however escaped some atrophic change. Brown rabbits were more susceptible than black. In the dogs the changes were less than in the rabbits. Histologically there was either total atrophy or atrophy with degeneration especially round celled infiltration. The epithelium was decreased and the interstitial connective tissue increased. The muscular parts were atrophied. In rabbits the atrophy was complete in dogs the central part around the ureter was more changed than the peripheral part. Sasala believes that he has demonstrated that roentgen rays applied to the testicles not only inhibit the growth of the prostate but cause retrograde changes in the fully developed organ. He discusses the histological changes, i.e. the disappearance of the seminal cells and the enormous increase of the interstitial cells. He believes that X-ray treatment of the testicles is an effective therapeutic measure in hyper trophy of the prostate. Already a few clinical reports substantiate it. ROSSMUS

McCarthy J F Preliminary Report on Cystoscopic Operative Treatment of Early Intracapsular Prostatic Infiltrations and other Obstructive Conditions in the Region of the Vesical Sphincter. *Am J S & G* 913 XVII 327 By Surg. Gynec. & Obst.

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Pousson and Desnos. French Encyclopedia of Urology (Encyclopédie française d'urologie). 1 ris. O. Doin. 94. By Journal de Chirurgie.

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work as this should have been conceived and written there. The first two volumes are a guarantee of the value of the whole.

In the first volume there is first a history of urology edited by Descazes extending from early Egyptian times to the present illustrated with a large number of engravings and reproductions of manuscripts of great interest.

The second part is an anatomical and physiological study of the urinary system beginning with a study of its comparative anatomy by Pellegrini followed by a study of the various parts of the urinary apparatus in man. Papan describes the kidney ureter and suprarenal capsules and Ambard reviews the normal physiology of renal secretion. The rest of the urinary apparatus is described by Ruffel and Descomps and Aubaret.

More than 350 pages are devoted to a study of normal and pathologic urine by Labat who gives detailed descriptions of the various methods of analysis, and by Achard and Paveseau who discuss the toxic bacteriology and septic properties of the urine.

In addition to these three principal parts there are three chapters possibly of less scientific value but of great practical interest on asepsis and antisepsis in urology instruments used in urology and general and local anesthetics. The first two are by Pierre Janet the third by Fritzschehoff. They go in details as to the choice of instruments sterilization of apparatus electric installation and indications and contra indications for various anesthetics.

The systematic description of the various diseases of the urinary system begins with the second volume. This whole volume is devoted to the pathology of the kidney but does not complete it. It begins with a study of the examination of the kidneys and ureters the anatomical and functional examination being written by Pasteau and Ambard and the radiological examination by Arcein. Each of these three authors has made original contributions to progress in the field in which he writes.

Traumatism, wounds and contusions of the kidney are treated by Carlier and Hents Boyer the forms of nephritis requiring surgical intervention by Lousson, with whom this is a favorite subject surgical nephritis pyelitis and pyonephrosis by Michon diseases of the kidney during pregnancy and diseases of the genital organs of women by Chevassu. This chapter will be of interest to the general surgeon and obstetrician as well as to the

urologist. Ponsson and Caries discuss all forms of calculi, and Leguere gives a masterly description of renal lithiasis. In conclusion, renal tuberculosis is discussed by Rafin and tumors of the kidney by Tuffier and Brechot. Each of these parts has a complete bibliography and abundant and well chosen illustrations. L. VANDER

Starkey F. R.: The Organs of Internal Secretion in Relation to Male Organs of Generation. *Lancet & Cile* Rev 1913 vol. 468. By Surg. Gynec. & Obs.

In this article Starkey calls our attention to the relation between the glands of internal secretion and sexual activity. He brings out the point that early puberty is often due to the hyperactivity of the pineal gland in early childhood. He also states that hypopituitarism of the gland is frequently accompanied by exceedingly strong erections in young male children and also is responsible for genital as well as somatic infantilism. In hyperactivity of the pituitary gland there is a marked effect upon the growth of the male genitalia and also hypopituitarism is liable to produce infantilism of these organs.

He brings out the point that individuals of precocious sexual development are usually short of stature with a square body and short legs and a profuse development of hair. The opposite indicates an underdevelopment of the sexual organs.

He notes also that increased function of the thyroid produces full development of the sexual organs and that incomplete development of the sexual organs and incomplete development of the thyroid are frequently noted together. He believes that the pituitary body is increased in activity at the time of puberty. Also that the thyroid gland enlarges and the voice changes and there is an increase in the development of hair.

After puberty is established hypopituitarism is responsible for sexual apathy, impotency and shriveling of the sexual organs. The author believes that many pernicious sexual habits are caused by abnormal development of the pineal and thyroid glands.

He brings out the point that after 45 the male experiences a recession of the sexual activity and that oftentimes at that age the male becomes unbalanced from a nervous standpoint and anxious constitutional disturbances appear thus producing really a male climacteric. A. C. SNODGS

SURGERY OF THE EYE AND EAR

EYE

Knapp A: Report of a Case of Traumatic Equatorial Rupture of the Sclera *Arch Ophth* 19 3 In 494 By Surg Gynec & Obst

Knapp reports a case of rupture of the sclera at the equator which was diagnosed after removal of the eye. The tension remained normal after the rupture. A bluish swelling on the sclera proved to be a hematoma in Tenon's capsule over the site of the rupture. C G DARLING

Zade M: Contribution on Metastatic Ophthalmia (Kasnistischer Beitrag zur metastatischen Ophthalmie) *Arch f Ophth* 913 LXXX 204 By Zentrabl d ges Chir u Grenzgeb

The evidence seems conclusive that in all cases of metastatic suppurative ophthalmia the invading organisms gain entrance into the eye through emboli even in those cases in which bacterial examination is negative. It is not so easy to tell however by anatomic examination how much bacterial reproduction has taken place post mortem in the tissues of the eye. In the case presented the eye was enucleated and fixed four hours after death. The clinical diagnosis was septicæmia with streptococci of strongly hæmolytic type.

Four days after admission in spite of surgical and serum treatment there developed bilateral metastatic uveitis and on the eighth day the patient died. In the right eye the almost completely destroyed choroid coat the slightly affected corpus ciliare the iris and the hypopyon were free of cocci. Suppuration must have been of purely toxic nature.

The retina which had separated from the other coats and was almost completely destroyed consisted largely of colonies of cocci. The course of the infection in the vessels of the retina could not be demonstrated. In the other eye the primary involvement of the retina could be more conclusively shown. The capillaries in the sheath of the central nerve fibres were filled with cocci. The other anatomical findings were the same as in the right eye save that the retina was still adherent. Here and there the cocci had penetrated from the retina into the vitreous humor but the outer coat of the eye was intact. As in most other cases there was endocarditis and the metastases in the eyes were the only localized points of inflammation in the area supplied by the carotids. The minute calibre of the retinal capillaries seem to predispose to embolic inflammation the infection having begun in the hand five weeks before. The streptococci in the cases of metastatic ophthalmia seem to be much more virulent than the pneumococci and more particularly is this true of

the hæmolytic streptococcus longus of Schottmüller which existed in this case. The possibility of post mortem multiplication of the cocci must be accepted. In the case cited by the author the most rapid increase probably took place during the few hours before death. During life the organisms probably do not remain long at one point in the capillaries. They either penetrate the vessel wall or are driven on by the bloodstream. Zade adds the report of another case which did not come to post mortem in which there was a unilateral ophthalmia—a case of phthisis bulbi following meningitis with an associated cardiac affection of similar origin. HALEY

Zentmayer W: Hydrophthalmos with a Histological Report of Two Cases One of Which Presented a Congenital Coloboma *J Am M Ass* 1913 In 1103 By Surg Gynec & Obst

After a succinct but comprehensive description of hydrophthalmos the author summarizes the opinions of contributors to this subject as to its etiology and treatment. He then analyzes the replies received from a large number of ophthalmic surgeons in answer to six questions relating to the advisability of operation type and results of operation percentage of cases showing evidences of inherited syphilis and percentage of cases occurring in negroes and concludes that the best method of treatment was some form of sclerectomy.

The wealth and variation of opinion as to the etiology of hydrophthalmos is emphasized by the summary. The author's cases tended to support the view of several contributors that the essential factor is an absence or incomplete development of the canal of Schlemm and that a probable contributing factor is the presence in the angle of the anterior chamber of prenatal connective tissue.

Judging from the replies to his questions from contemporaneous American surgeons and from his review of the literature the author concludes that because of the anatomical condition iridectomy is dangerous unless it is performed at a very early stage of the disease that paracentesis and sclerotomy must be performed frequently and are unsatisfactory, that sclerectomy can best be accomplished by the method of Fergus Elliot.

E W ALEXANDER

Harrover D: Two Cases of Chronic Glaucoma Simplex Treated by Iridotomy *Arch Ophth* 9 3 In 486 By Surg Gynec & Obst

Harrover reports two cases of simple glaucoma treated by iridotomy as advised by Borthen. He thinks the results have been exceedingly gratifying. C G DARLING

La Grange: New Operation for Chronic Glaucoma *T. Internat. Cong. Med. Lond. 1913 Aug.*
By Surg. Gynec. & Obst.

The old methods of operation for chronic glaucoma, iridectomy, sclerotomy and similar operations have given very poor results. La Grange proposes a new operation which consists in making a subconjunctival fistula by the performance of a marginal anterior sclerectomy.

He has been performing this operation for ten years, and it has given very much better results than any other. He says that in all cases the hypertension which is the chief symptom of glaucoma can be overcome. He reports 140 cases, all performed more than a year ago in all of which a permanent fistula was established with relief of hypertension and with success in regard to vision in 95 per cent of the cases. Of the other 5 per cent who lost their vision all were serious cases with trophic disturbances of the optic nerve or very acute vascular disorders.

The technique varies somewhat with different operators. La Grange considers the trephine a dangerous instrument and uses scissors or a punch to perform the resection under the conjunctiva. In the original article he describes his technique in great detail. Hilt prefers a Graefe's knife while Elliott and a large number of English operators prefer a small trephine.

La Grange reviews the indications for sclerectomy and the advantages to be derived from combining with it an ordinary iridectomy. He concludes that iridectomy should be used only to avoid prolapse of the iris. The curative value of his operation lies in the resection of the sclera that is in the establishment of a permanent subconjunctival fistula which allows the aqueous humor to pass out of the anterior chamber of the eye into the conjunctival sac. Iridectomy is sufficient for the cure of acute glaucoma but excision of the iris is not necessary in chronic glaucoma. Anterior sclerectomy with a marginal incision spares the sphincter of the iris with great advantage to the patient. He can use myotics successfully and keep the light regulating mechanism of the eye intact.

Selenkowsky: The Diagnosis of Sarcoma of the Choroid: Two Cases of Sarcoma with Decreased Intra Ocular Pressure and One Case of Sarcoma of the Eye after Evisceration of the Eyeball (*Zur Frage der Diagnose des Sarcoms der Gefasshaute des Auges. Zwei Fälle von Sarcom des Gefasshautes des Auges nach Exenteration des Augapfels*). *Russk. Vrach. St. Petersburg, 1913 34, 353.*
By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

From his own cases and those described in the literature the author comes to the following conclusions. The pigment of melanotic sarcoma has its origin in the red blood cells, as is shown by the color of the pigment and its localization along the blood vessels. The possibility that the pigment in non-melanotic sarcoma originates in the stroma of the

choroid cannot be denied. The different forms and the size of the chromatophores in the pigmented part of the tumor, the proliferation of the pigment, the epithelium of the retina, and its penetration into the substance of the tumor show that both views as to the origin of the pigment in melanotic sarcoma are justified. *Jorrs*

Créde-Hörder C.A.: Ophthalmia Neonatorum
Etiology Pathology Therapy and Prophylaxis
(*Die Augenentzündung der Neugeborenen Aetiologie Pathologie Therapie und Prophylaxe*) Berlin, Kar-
ger 1913

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Blepharitis in the newborn may be due to numerous other organisms in addition to the gonococcus. Aside from the bacteriologic findings the difference in the clinical course characterizes the non gonorrheal from the gonorrheal. The non gonorrheal forms are much milder and under no circumstances is the cornea affected. For the manner of the infection the presence of the fetal head in the vagina without the protective covering of the membranes is of much significance. Prolonged expulsion and early rupture of the membranes increase the danger. Over one quarter of the number of cases of ophthalmia neonatorum are late infections.

The author denies the explanation given that the incubation period in these cases is prolonged. In addition to the direct transference of gonococci to the eyes of the newborn there are other possibilities of infection. The organisms may have entered the Meibomian glands and later infect the eye from there. After a careful and detailed description of the clinical picture the author briefly discusses the treatment, which wherever possible should be left to the eye specialist.

Prophylaxis is naturally of extreme importance, and the author discusses it in detail. The mild irritation which occasionally follows the introduction of silver into the eye is unimportant. After numerous investigations the author states that this is confined, as a rule to the conjunctiva of the lids and usually disappears in a few days. The author has tested a large number of silver preparations but found none superior to 2 per cent argente nitras. He recommends the physician not to stop with one drop in each eye but to instill three drops into each eye and two upon the edges of the lids. He also deems it important to cleanse the external genitalia thoroughly before the birth of the head. *Votor*

Bruns, H. D. Ophthalmia Arterfacta *Old Domes*
son J. Med. & Surg. 1913 2nd 36.
By Surg. Gynec. & Obst.

Bruns reports a case in which both eyes were repeatedly injured by the patient herself in injuries recurring with suddenness over a period of many months.

The clear definition and black color of the lesions were unlike anything known to the observers. The vision of the right eye was reduced to light percep-

tion, and that of the left, to the perception of fingers at eight feet. Multiple symblepharons resulted from the ulcers. The patient had also a self-inflicted dermatitis. The cause of the black sloughs is unknown. C G DAZINO

EAR

Shambaugh G E: Chronic Obstructive Middle Ear Deafness. *J Am M Ass* 1913 121 1206
By Surg Gynec & Obst

In this article the author brings out the importance of differentiating more clearly between the various cases of destructive middle-ear deafness so that the cases likely to improve under treatment may be separated from those in which treatment will be of no avail.

The author believes that the term chronic simple or chronic non-purulent otitis media should be substituted for chronic catarrhal otitis media because pathologically the process is one of infection of the lining membrane with round-celled infiltrations and thickening and the subsequent formation of fibrous connective tissue. Associated with this process may be tubal occlusion usually with retraction and thickening of the drum membrane. The relation between the severity of the condition and the extent to which the hearing is impaired varies greatly. The chief cause of deafness lies in the adhesive bands which connect the ossicles and membrane to the walls of the tympanum. Folds of mucous membrane form a fan-shaped ligament around the neck of the hammer and often a more or less complete partition between the attic and the cavum tympani proper. Normally these folds are composed of two layers of flat epithelial cells with a few blood vessels between. Inflammation however results in a marked thickening which must constitute an important factor in producing rigidity of the conducting mechanism.

On the whole the prognosis with regard to the progress of deafness is better if the occlusion of the tube has disappeared. Persistent tubal occlusion usually indicates a process which is still active and one in which very probably there will be further increase in the deafness. Another factor in the prognosis is the development of secondary degenerative changes in the cochlea noted by a defect for higher notes of the Galton whistle. The chances of an improvement in the hearing are less in those cases in which occlusion of the tube has disappeared. On the other hand the defect in hearing in cases of persisting occlusion of the tube especially if secretion in the tympanum is present as a rule is more readily impaired by treatment. EARLE B FOWLER

Reik H O: The Value of Nasopharyngeal Surgery in the Treatment of Chronic Exudative Otitis Media. *Bull J Am H Pt S H Sp* 9 3 221 230
By Surg Gynec & Obst

The author believes that it is an accepted fact that chronic exudative otitis media with its char-

acteristic tendency to progressive deafness, has for its principal cause and continuously exciting factor some abnormality in the nose pharynx or nasopharynx such as hypertrophied turbinates deflected septum hypertrophied or submerged diseased tonsils, or adenoids. He believes further that even after an acute exudative otitis media is established the ear can be restored to a normal condition and safeguarded for the future by prompt and proper treatment of the exciting factors in the nose and throat.

The author reports 34 cases of deafness depending upon some nasopharyngeal abnormality and from a study of the chart it is observed that in 32 cases there was immediate improvement of hearing to some degree and in 2 cases there was no apparent change. In none was there any immediate loss of hearing. Later observations showed that of the 32 cases of immediate improvement 26 remained improved 4 showed additional improvement and only 2 lapsed back from the first improvement to the previous state of hearing.

In conclusion the author sets forth very emphatically his belief that simple exudative otitis media which is due to abnormal or diseased conditions in the nose or throat can be arrested in its progress by removal of these exciting conditions that in such cases the progressive deafness can be stopped and further loss of hearing prevented and that in some few cases the hearing power may be materially improved. Success of this kind however depends upon the proper performance of nasopharyngeal operations so that there shall be complete and thorough eradication of the abnormality without injury to neighboring normal structures.

GEORGE E BRIDLE

Harris T: A Brief Consideration of Certain Recent Views Regarding Otosclerosis. *Laryngoscope*, 9 3 221 201. By Surg Gynec & Obst

The author weighs and considers briefly the various views in regard to the nature of otosclerosis. In 1885 Bezold first demonstrated that this loss of hearing for low tones was the result of rigidity in the oval window.

The early view in regard to the etiology was that the condition was the result of a disease of the middle ear. Politzer holds that it is a primary affection of the labyrinthine capsule originating in the bone itself. New bone tissue is developed which presses out the old bone and advances toward the oval window and the stapes leading to stapes ankylosis. Siebermann believes the starting point is upon the border between the labyrinthine capsule and the connective tissue bone, the earliest stage being the lacunary resorption of the bone by means of the Haversian canals while in other areas apposition is effected by means of osteoblasts. Denker concluded that the disease was usually of a primary nature. Manasse from an examination of seventeen temporal bones from ten patients holds (1) That the predilection area for the diseased process is the

anterior border of the oval window (2) That the disease is virtually a transformation of the labyrinthine capsule. The new bone instead of being compact contains trabeculae between which lies a greater or less number of large open spaces. Thus spongy bone becomes much harder and closer with age (3) That the initial stage of the disease proceeds from the blood vessels themselves. (4) Stapes ankylosis is not an essential part of the disease.

In summing up Harris concludes that much is yet to be learned as regards both the histology and the etiology and that we can offer little for a cure as long as the latter is so obscure. We can say with confidence however that in the majority of cases, a determination of the disease is entirely possible. While nine years have elapsed since Denker's book on the subject Harris regards his description of the clinical disease as eminently correct. Denker says, "In the cases of progressive hard hearing, which show an unchanged or virtually normal drum membrane a patent Eustachian tube and the Bezold triad of symptoms we may conclude that the pathological changes are only in the stapes and the annular ligament and in the bony areas bordering on the oval window. In other cases where the functional test does not give the Bezold triad but where there is a pronounced reduction of the upper hearing limit where bone conduction is not lengthened and where the Rinne is not pronouncedly negative there is an addition to the disease of the oval window an extension of the process further into the capsule of the labyrinth or an involvement of the membranous labyrinth."

EARLE B. FOWLER

Mignon M: A Modification of the Technique in Mastoid Dressing (Modification de technique des pansements mastoïdiens). *J Internat Cong Med* Lond 193 Aug. By Surg Gynec & Obst.

The author proposes replacing the bandages of a mastoid dressing about a week after the operation by an aluminum apparatus called a mastoid cover. The apparatus has a hook to fit around the ear which keeps it in place and protects the wound. This simplification in dressing is satisfactory to the patient, gives a better appearance, facilitates quick dressing and gives as good results. A. Goss.

Page J R. The Report of a Case of Paracoustic Vertigo and Nystagmus Cured by Operation on the Labyrinth. *A Otol Rhinol & Laryngol* 93 Jul 3. By Surg Gynec & Obst.

The author reports the first case in which the labyrinth operation was performed in this country for the relief of vertigo.

The patient a man 44 years of age gave a history of deafness and stiffness of the right ear from boyhood but no discharge from either ear. For seven years he complained of disturbance of equilibrium an exertion which accelerated the heart action and for two years he experienced decided

disturbances of equilibrium upon pronomen, certain letters and hearing certain sounds.

After the labyrinth operation the symptoms were relieved and six months later the patient had no disturbance of equilibrium resulting from external sound or that of his own voice though a slight tinnitus persisted. ELLER J P REASON.

Dench E B: The Technique of the Labyrinth Operation. *Laryngoscope* 93 June 13. By Surg Gynec & Obst.

Various methods of entering the labyrinth for the relief of certain pathological conditions are described and divided into four groups as follows:

1 In cases of suppurative labyrinthitis with probable extension to the meninges the author advocates entering the labyrinth according to the method devised by Neuman. This method consists of a complete radical operation with lowering of the facial ridge to the extreme limit. The dura over the tympanic and tympano-antral roof and the lateral sinus from above the knee to the vicinity of the jugular bulb are exposed. The dura is separated and the bone in front of the sinus is removed toward the facial ridge until the two limbs of the posterior semicircular canal are opened and continued until these openings become slits. A fine probe is inserted and carried into the vestibule. The openings are then enlarged until a probe of ordinary size can be inserted into the vestibule. The auditory portion of the labyrinth is drained by removing the thin layer of bone between the oval and the round windows.

2 In cases of circumscribed labyrinthitis which are occasionally found at the time of the radical operation and in which there are no symptoms or only the fistula symptom is present, the author cures the diseased area.

3 In draining cases of diffuse labyrinthitis with no symptoms of extension to the meninges the author follows the radical operation with lowering of the facial ridge by opening the horizontal semicircular canal at its most prominent portion and inserting a probe.

4 For the relief of vertigo or vertigo a d tinnitus in chronic non-suppurative inflammation of the labyrinth, Dench believes the vestibule can be opened below and behind the prominence of the horizontal semicircular canal without performing the radical operation and has carried this out on the cadaver. Another means of entering the vestibule developed by the author in experimental work is a complete mastoid operation with wide exposure of the tympano-antral roof. The dura was exposed and the bone removed inward until the prominence of the superior semicircular canal appeared. The superior wall of the horizontal semicircular canal and the superior surface of the petrous pyramid were removed whereby the superior semicircular canal was opened. The vestibule was opened by removing the roof of the superior semicircular canal. The destruction of the canals and nerve endings was completed by the curette. EARLE B. FOWLER.

SURGERY OF THE NOSE, THROAT, AND MOUTH

NOSE

Voorhees I W: *Conservative Surgery of the Nasal Septum* J Am M A 9 3 121 1905
By S R Gynec & Obst

The surgeon is cautioned to make a very careful diagnosis before performing the submucous operation on the septum as good respiration is not always prevented by a badly deformed septum. The causes producing nasal insufficiency may be anterior posterior or between the two. A peculiar type of insufficiency is that in which with each inspiration the alae nasi sink in and thus cut off the air entering the nose. This is due to a weakened condition of the accessory muscles or cartilages in the wings of the nose. The turbinates are also frequently the cause of the obstruction through hypertrophy either of the bone or of the soft covering. Soft hypertrophy may be either local or constitutional in origin. The chief constitutional cause is intestinal cardiac or renal. Frequently nasal insufficiency arises from a nasal discharge arising either in a sinus of the mucous membrane and produced either by local or by constitutional factors. In chronic sinusitis the discharge falls into the nasal fossae dries and forms crusts which occlude the nasal passage. In such cases if the septum is removed no advantage is gained because the discharge still continues. In the naso-pharynx the chief causes of obstruction are adenoid posterior tips of the inferior turbinate and polyp. Unscientific practitioners use these facts as excuses for performing the submucous operation which as it does not cure the patient is brought into disrepute. The septal causes of nasal obstruction are deviations thickening fractures spurs gumma abscess tuberculum septi.

The purpose of the submucous operation is to straighten not to remove the septum. All that is required is to take out the redundant portion and fracture the crooked elements so that they may be held in place by simple splints. (The Asch submucous operation.) If the deviation is limited to the ethmoid the little finger should be sterilized and passed into the nostril and the perpendicular plate should be fractured by pressure. The nose should then be packed with long strips of sterile gauze saturated with liquid petroleum which should be removed in twenty four hours. H B Brown.

Mackenz G W: *Complications that May Arise during or after Operation for Correction of Septal Deviation* J Am M A 9 13 1197
By S R Gynec & Obst

One should always keep in mind the danger of toxic effects of the anæsthetic used. Much care is

needed in making the primary incision which if improperly done will lead to delay and result in damage to the mucous membrane. Perforations of the mucous membrane may be obviated by filtration of the membrane preceding the operation.

Perforations are serious when they pass through both sides at corresponding points. A button hole in the mucous membrane on one side only need cause no anxiety. A successful means for replacing the flaps prior to applying the dressing is to have the patient blow the nose forcibly first from one side and then from the other. Hemorrhage fracture faulty packing infection flattening of the nose hæmatomas, erysipelas empyema are mentioned as complications to be avoided. Excessive hemorrhage is usually venous and occurs low down and in front. Secondary bleeding has never been noted. In packing the operator should be careful to have the raw surfaces of the mucous membranes in apposition. A frequent cause of infection is a previously existing disease of the sinuses the tonsils or the adenoids.

Severe reaction may follow the operation if at the same time an operation is performed on the turbinates or accessory sinuses. Removal of too much cartilage may result in flattening. Proper packing will prevent hæmatomas. In suspected cases of empyema of an accessory sinus an attempt to cure it should be made before operating upon the septum. H B Brown.

Auerbach J: *The Uses and Limitations of Paraffin in the Treatment of Ozena* N Y M J 9 3 1261 1906
By Surg Gynec & Obst

This paper is based on the study of 32 cases of genuine ozena the most pronounced symptoms of which are fetor and crust formation. That the case may come under the definition of genuine ozena as given by Franckel the author has not included a case of accessory sinus empyema or a case having local areas of suppuration.

By the use of hard paraffin (melting point 50 to 52 C) embolism sometimes following the injection of softer oil was avoided. Under thorough aseptic technique the paraffin is injected without previous incision under the mucous membrane of the inferior turbinate or septum or floor of the nose as the individual case may indicate.

Within from three days to a week the secretion becomes more liquidated and less tenacious and there are fewer crusts.

This improvement lasts from two to five months when reoperation becomes necessary. The author reports eight cases demonstrating the relief obtained by this method.

Sluder G: Etiology, Diagnosis, Prognosis and Treatment of Sphenopalatine Ganglion Neuralgia. *J Am M Ass* 1913 10: 1205
By Surg. Gynec. & Obst.

In previous articles Sluder has pointed out the very extensive distribution of nerves radiating from the sphenopalatine (Meckel's) ganglion and has drawn a clear picture of the large area of pain dependent upon a lesion in its structure. This nerve center becomes involved by the extension of inflammatory processes from the postethmoidal sphenoidal cells or from the membrane of the nose. Some cases of sphenopalatine ganglion neuralgia are due to a systemic toxin. In all of his cases of either origin the author has found that cocaine applied to the ganglion has always stopped the pain though there may be a recurrence necessitating a second application.

The ganglionic lesion may be produced by lesions of the nerve trunks which supply the ganglion (the second division of the fifth and the vidian nerves). In the latter case the pain can be stopped only by the intrasphenoidal application of cocaine or some local anesthetic applied centrally to the ganglion. Alcohol injected into the region of the ganglion does little good. Injected into the ganglion itself it is of but temporary avail in relieving the pain.

In considering the treatment of the pain by injection the author points out the anatomical difficulties in the use of bent needles and states that a straight needle is best and may be passed through any nose. The pterygomaxillary fossa is constantly reached at 0.33 cm. back of the posterior tip of the middle turbinate which marks the anterior limit of the sphenopalatine foramen and the pterygomaxillary fossa lies external to the plane of the sphenopalatine foramen. Therefore if the needle is passed under the posterior tip of the middle turbinate at its junction with the lateral wall in a direction upward backward and lightly outward it must pass into the pterygomaxillary fossa and enter the immediate vicinity of the sphenopalatine ganglion. The distance from the point at which the needle enters to the ganglion is 0.66 cm. When local applications fail to stop the pain an injection of 0.5 cc. of 5 per cent phenol in water or in 95 per cent alcohol is recommended.

H. B. BROWN

THROAT

Da Is II J: Chart and Brief Notes of a Case of Cavernous Sinus Thrombosis Following Left Tonsillectomy in a Boy Aged 10. Fatal Termination in Eighteen Days. *Proc Roy Soc Med* 1913 6, Laryngol Sect. 74
By Surg. Gynec. & Obst.

The author reports a case of unilateral parenchymatous tonsillitis in a previously healthy boy with oscillations of temperature varying from 98° to 106° with rigors and symptoms of cavernous sinus thrombosis developing the thirteenth day of illness followed by death in five days.

In the discussion which followed, O'Malley Thompson and Horne agreed that it was difficult to trace the route of infection of the cavernous sinuses from the tonsil, but that the histories of cases and post-mortem findings seem to suggest that even in so-called tonsil cases the thrombosis was really of sphenoidal origin. M. Whale claimed that the route of infection was through the tonsil pterygoid plexus facial and angular veins, and then by way of the ophthalmic vein.

ELLEN J. PATERSON

Sheedy B. D.: The Results of Tonsillectomy under Local Anesthesia. *J Am M Ass*, 1913, 10: 1127
By Surg. Gynec. & Obst.

This article gives the anatomy of the tonsil, an analysis of deformities of the throat caused by poor operations and a description of the author's method of performing tonsillectomy. He believes that deformities caused by an imperfect method of enucleating are less harmful than incomplete removal (tonsillotomy) and that deformities which do occur are the result of faulty technique. Of the 700 cases examined 80 had visible deformities, and the other 20 seemed normal in all respects. In 34 speech defects were noted for 2 or 3 weeks and in 16 for three months. 4 lost the singing voice altogether. 26 had better voices after the operation. 5 per cent had difficulty in pronouncing certain words. The defects in the throat were: (1) Pillars seemed to have disappeared. (2) Pillars had grown together. (3) A tensor pillar had disappeared. In adult patients over 14 years of age, the author uses local anesthesia and in those under 14 years, general anesthesia. In the case of adults he swabs the throat with a 10 per cent solution of cocaine and then injects a 1 per cent or a 1.5 per cent solution of quinine bisulphate into the cellular tissue outside of the capsule. A tonsil tenaculum is introduced into the center of the gland and pulled toward the median line until the junction of the mucous membrane and the capsule is brought into view. With a blunt pointed tonsil knife the mucous membrane around the tonsil is then incised. If this does not evert the tonsil a nick is made at the upper angle. After the tonsil has been everted a snare is passed around it and it is slowly removed.

Sheedy claims that for two years he has not had a single resulting deformity. In only a few exceptional cases was it impossible to evert the tonsil. (1) where hypertrophy had already caused escape from the capsule. (2) where the capsule was holding within itself a mass of cicatricial tissue and (3) where the tonsil was held down by cicatricial bands.

A. SPENCE KAUFMAN

McKenzie D.: Death after Tonsillectomy. *Proc Roy Soc Med* 1913 6, Laryngol Sect. 84
By Surg. Gynec. & Obst.

The author reports a case of simple tonsillectomy (6 weeks after an attack of acute catarrhal otitis media) in a child (died in three days) by sepsis with a temperature of 103° and locally signs of cervical

abscess The local condition was relieved by incision and evacuation of pus but the next day the child developed violent pain on the left side with increasing respiration followed by death in 18 hours

The post-mortem findings showed a double pneumonia and pleurisy with double empyema pericarditis and pericardial effusion and the organism obtained from both the clinical abscess and pleural cavity was *spirochaeta dentium* the organism found usually in the mouth

It is the author's custom to use a mouth wash of 1 per cent lysolform previous to operation but in this case it was accidentally omitted

ELLEN J PATTERSON

Oppikafer E Primary Malignant Growths in the Pharynx (Über die primären malignen Geschwülste des Nasenrachenraumes) *Ach f Laryngol u Rhinol* 19 3, xxv, 526

By Zentralbl f d ges Ch u l Grenzgeb

The author reports twenty-one cases six of carcinoma six of lymphosarcoma five of round celled sarcoma and three of endothelioma The age of the patient did not seem to be a predisposing factor for any of these tumors Almost without exception the prognosis is still hopeless Of the twenty-one cases only one a hyposarcoma recovered permanently This is more hopeful than either carcinoma or endothelioma, and may sometimes be cured by the prolonged administration of arsenic Retronasal carcinoma can be cured only rarely even by operation Röntgen treatment was carried out in all of these cases and was frequently followed by temporary cessation of pain The growths likewise decreased in size for a time but later began to grow again Puiguration radium thorium and mesothorium only occasionally gave permanent results

KOVATZ R

Cocks, G H: Vincent's Angina *Laryngoscope* 9 3 22 929

By Surg Gynec & Obst

Difficulty in recognizing the disease is due to failure to have a smear made The bacilli and spirilla of Vincent do not grow on ordinary culture media The bacilli and spirilla are found in angina and stomatitis also in mastoiditis chronic otitis media meningitis abscess of lung liver and spleen also in tonsillar abscess in the larynx about the pulp of canous teeth and in crypts of diseased tonsils

The fusiform bacilli may be differentiated from diphtheria by Gram's method of staining Too large a percentage of cases is overlooked The color of the membrane is gray or grayish in most cases

Of 265 cases 99 were diagnosed clinically as diphtheria whereas the bacteriological report gave only 64 as being diphtheria Lowered bodily resistance diseased tonsils teeth and gums are the predisposing factors in Vincent's angina It is a highly contagious disease

The removal of the membrane in angina leaves

an ulcerated area which bleeds easily upon being touched The disease is associated with diphtheria and syphilis and is often accompanied by stomatitis Blood examinations show a relationship between Vincent's angina and lymphatic leukemia

The symptoms of mild cases of angina are chilly sensations pain in tonsillar region when swallowing malara slight fever submaxillary glands on same side usually swollen duration about two weeks In severe cases one or both tonsils the pharynx uvula and soft palate may also be involved pain and prostration are extreme temperature from 99.5° to 103° Duration uncertain The disease has proved fatal in a number of cases A differential diagnosis should be made between Vincent's angina and diphtheria syphilis, and streptococcus anginae The only sure way for doing this is by bacteriological examination and a Wassermann test

H BEATHE BROWN

Dennis F L: Diagnosis and Treatment of Laryngeal Tuberculosis *J Am M Ass* 1913, lx, 15 9

By Surg Gynec & Obst

The author believes that patients with pulmonary tuberculosis should have routine laryngeal examinations in order that any involvement of the larynx may be discovered in its earliest stages

Primary laryngeal tuberculosis is rare and is not necessarily indicated by hoarseness or laryngitis in tuberculous patients for such patients may be suffering from catarrhal laryngitis, syphilis or cancer Hoarseness is not present unless the ulceration involves the part of the larynx upon which phonation depends Dennis differentiates between hoarseness and weakness of the voice. The latter is due to a general muscular atony He attaches no importance to pallor of the mucous membrane as it varies with the complexion and haemoglobin percentage and is significant only when localized in the throat He does consider important however a thin line of muco-pus lying in the posterior commissure and extending over the interarytenoid region Redness of one cord, when the other is normal is diagnostic of tuberculous laryngitis in a tuberculous patient Slight infiltration of the epiglottis thought to be tuberculous does not always develop the characteristics of tuberculosis The diagnosis of simple catarrhal laryngitis can be made only by watching its course. Pachydermia of the posterior wall may resemble tuberculosis but the presence of an ulcer and pulmonary involvement clears the diagnosis The crusts in pharyngitis sicca may be softened by warm water or oil, and removed The Wassermann reaction and the use of salvarsan render the diagnosis of syphilis more easy but there may be a mixed infection In carcinoma of the larynx the diagnosis is based upon a lagging of the affected side the age of the patient the appearance the microscopic examination of a piece of the tumor and the tuberculin test In unilateral posticus paralysis tumor-faction and infiltration are absent

Laryngeal tuberculosis should be treated cautiously. The author has not observed direct beneficial effect from the use of tuberculin. The cough should be controlled by heroin or codeine. Speech should be limited or entirely prohibited. Painful deglutition should be relieved by the use of orthoform or anæsthesum or if the pain is from lesions below the epiglottis alcohol injections of the superior laryngeal nerve give relief which some times lasts for days. When the pain is due to ulceration of the epiglottis amputation is advised. Locally for infiltration the author uses 3 to 10 per cent formaldehyde thoroughly rubbed in and for ulceration a saturated solution of trichloroacetic acid applied every seven or ten days, this in patients with high temperatures or extensive involvement of the larynx or who are too nervous for surgical treatment.

In selected cases surgical measures are best. For isolated tuberculomas, moderate infiltrations and ulcerations the author uses a curette, a punch, or a galvano-cautery. Cautery is used in extensive infiltration of the false cords. Surgical measures are indicated also as palliative treatment, and tracheotomy sometimes has a curative as well as a palliative effect.

Dennis concludes that the larynx should be frequently examined and treated if necessary that care of the general condition is most important, and that in selected cases surgical measures hold out the greatest hope for cure as well as for palliation.

A. SPENCER KAUFMAN

MOUTH

Steadman T. St. J.: *Pyorrhœa Alveolaris as a Predisposing Cause of Cancer of the Alimentary Canal and Associated Parts*. *T. Internat. Cong. Med. Lond.* 1913 Aug.

By Surg. Gynec. & Obst.

It is the author's belief that cancer rarely occurs in any part of the body unless it has been preceded by a more or less long standing chronic inflammation and that by far the commonest predisposing cause of cancer is a chronic septic condition of the mouth.

Analyzing the 112,801 deaths from cancer in England and Wales during the years 1901 to 1904 he shows that excluding cancer of the sexual organs 86.5 per cent in the female and 85.1 per cent in the male sex occurred in the alimentary canal and its associated parts.

To quote the author: Having seen then, that elsewhere in the body in those parts either on the surface or closely connected with an orifice chronic

inflammations are fairly common owing to the ease with which direct infection can take place and further that these chronic inflammations seem beyond reasonable doubt in some cases at any rate to predispose to the subsequent development of cancer I determined to investigate the condition of the mouth with regard to that disease known as pyorrhœa alveolaris in patients suffering from cancer of the alimentary canal and the associated parts because it is clear and indeed very well established, that the constant swallowing of infective material from the mouth must be likely to produce chronic inflammation of these parts.

In order to study a possible relationship between pyorrhœa and cancer the author examined the mouths of 143 persons suffering from cancer finding that all but one of the whole number suffered from pyorrhœa of varying degrees.

Four hundred and fifteen patients of 35 years or over not suffering from cancer were examined with the result that 359 of these were suffering from pyorrhœa of varying degrees.

A further examination of persons of all ages was made in order to establish an age at which pyorrhœa is common. This revealed a gradual and markedly increasing tendency up to 85 years. From these studies of many cases of cancer and of many pyorrhœa cases the author constructed a graph showing a curve which was parallel to the curve showing the death rate from cancer in England and Wales.

The author is convinced that pyorrhœa alveolaris is by far the commonest predisposing cause of cancer of the alimentary tract. To sum up this evidence we see:

1 That apart from the sexual organs over 86 per cent of all cancer occurs in the alimentary tract.

2 That long standing chronic inflammation in the sexual organs, and in other parts of the body is known to predispose the patient to the development of cancer.

3 That the great majority of persons suffering from cancer in the alimentary canal have advanced pyorrhœa alveolaris which has been present very many years.

4 That this advanced periodontal disease is not nearly so common in persons not suffering from cancer.

5 That it is a well known fact that the constant swallowing of pus can and does in many cases bring about chronic gastritis.

6 That the majority of patients suffering from cancer of the stomach have had chronic gastritis for many years previous to the development of the malignant disease.

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SURGERY OF THE EXTREMITIES

Diseases of Bones Joints Muscles Tendons—
General Conditions Commonly Found in the
Extremities

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chronic intra-ocular tuberculosis F H VERHOEFF
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KELLOGG J Ophth Otol & Laryngol 9 3 xi 360
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sarcoma with decreased intra ocular pressure and one case
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and ANGELO Prov méd 9 3 V 38
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Berl Karger 9 3
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drainage through the cisterna magna mastoid operation
recovery F P EMERSON J Am M Ass 93 LXI 1209
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J M INGERSOLL Cleveland M J 93 XI 592

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cleidomastoid muscle to the mastoid process LANG
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drainage of the cisterna magna E B DENCE Laryngo-
scope 1913 XXX 944
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originating in the ear BICHATOV and GUILLEMY Rev
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improved technique Thiersch graft vs tampon C F
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direct route DE GYORGYAI Rev heb de Laryngol
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SURGERY OF THE NOSE THROAT AND MOUTH

Nose

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A mucous cyst of the nasal septum with post-operative
nasal hydropsy F THWALD Wien Kl Wchnsch
1933 I 37
Double drainage tubes (inner and outer) for noses after
submucous resection of the septum S GOLDSTEIN
N Y M J 3 X 473
A simple mucous ledge operation R H JOHNSTON
Laryngoscope 93 XX 928
Technique of treatment of mucous resection
without packing L OSTROM Laryngoscope 1913 XXX
93
Conservative surgery of the nasal septum I W
LOCKHEE J Am M Ass 93 LXI 95 [87]
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for correction of septal deviation G W MACLENTIE
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treatment F P EMERSON Boston M & S J 1913
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AUTHORS

OF THE ORIGINAL CONTRIBUTIONS WHICH ARE ABSTRACTED IN THIS NUMBER

- Ahlfeld, F 177
 Albeck 165
 Babcock, W W 124
 Bainbridge W S 133
 Balaban, I A 173
 Bamberg K 145
 Bar L 101
 Barclay, A E 134
 Bassett R., 173
 Beckman, E. H 123
 Boer E 124 123
 Benedek L 150
 Bertzeller I 157
 Berke 130
 B Huntington W 123
 Blaisdell F E 161
 Boland F K., 121
 Bonn H K 125
 Borst M 151
 Bransch W F., 121
 Brandewener 153
 Brown L., 127
 R. Richardt H 130
 Cadénat F M 129
 Calvé, J 147
 Canavan, M M 155
 Candela y Pla, M 152
 Caron M 125
 Carr W P. 143
 Chapin H. D 134
 Chaput 166
 Childs C. P 161
 Christani A 174
 Clendenen L., 155
 Coats, G 89
 Coburn, R. C., 124
 Codman, E. A 137
 Cokenower, J W 141
 Collins, C. N 137
 Cooley, T B 154
 Crile G W 164
 Cserny, V., 153
 D. vis, T G 127
 De Keating Hart, 140
 De Lee J B 176
 Dench E. B 100
 Dickinson, R. L 176
 Ely L. W 141
 Erdmann J F 139
 Irving W G 145
 Fallon, M F 139
 Fasset, F J 146
 Fenton, F., 168
 Ferguson R. T., 166
 Foster, H 127
 Flrth J L 124
 Fischer M 131
 Foster N B 123
 Fuller E 142
 Gammeltoft, 160
 Gellhorn G 125
 George A. W 133
 Gerber I 133
 Guelt A 164
 Goodpasture E. W 140
 Gougerot, H., 101
 Gracie, H S 129
 Halpern, 153
 Hart D B 120
 Hawes, J B 127
 Heinicke H 143
 Heinrichsdorf F 170
 Hertz, A F 135
 Hertzel A. E 150
 Hersfeld B 157
 Heyn, A., 178
 H. rat, B C., 169 176
 Hoch, O 151
 Hago E. W., 149
 Holischinsky K., 145
 Hull A J 133
 Issel, E 120
 Jackson, C 144
 Jacobs, C. M 141
 Janeway, H H 135
 Jardine R 175
 Jordan, J F 177
 Kaarsberg I 160
 Kalmanowitsch F., 178
 Kastanajeff G M 166
 Kayser 60
 Keep C 161
 Kehrer E., 179
 Kerr H H 137
 Keyes Jr E. L. 125
 Koplik 179
 Landsberg E 168
 Lelèvre H 147
 Lepyge 10
 Lerch R 135
 Levin, I 149
 Le Wald, L. T 131
 Lindemann, W., 170
 Lippens, 121
 Liscano P 162
 Looz, O 123
 Lord, J P 146
 Lorenz A 144
 Lothrop, O A 190
 Ludwig, F., 163
 Mart n, F H., 159
 Martin I A M 142
 Mattissohn, 163
 Mayer A 173
 M. yo C. H 54
 McFarth B F 126
 McKenzie, D 101
 Middleton W J 142
 M. Her A. G 125
 Miller Jr R. T 133
 Mills, E. P., 146
 Mol nari 126
 Möller O 61
 Moornad, S., 156
 Montgomery E. E., 160
 Morse J L 134
 Müller 123
 Müller A 75
 Müller G P 128
 Nagel, W 67
 Neumann, H 172
 Noland L., 154
 Noyes, M L 101
 Ombredanne 126
 O. N. il, R F 127
 Orr H W 142
 Pankow 173
 Paramore, R H 80
 Pachel, K 120
 Pol k J O 161
 Pomick W 174
 Puppel, L. 164
 Quellen P 101
 Quimby A J 113
 Rachmanoff A N 169
 Ramsbottom, A 134
 Recases, S 71
 Reynolds, E., 170
 Ries, E., 137
 Rohrbach W 167
 Roth O 143
 Roussy O 150
 Rovsing T 44
 Saenger H., 176
 Sames, 159
 Scherer A 170
 Schlayer, 173
 Schley W S., 131
 Schlumpert, H 120
 Schmidt, O 167
 Scapades, E., 171
 Scudder C. L. 134
 Seedorf M 160
 Seidel, 144
 Senow H D 131
 Sivert, C., 74
 Skinner E H 140
 Somers, 162 126
 Southard, E. E 155
 Souttar, H S 174
 Squier J B 162 126
 Stevenson E. S 141
 Stewart 151
 Strauch, F W 148
 Stutz G 173
 Swan, J 123
 Sym, W G 129
 Thomas, F 164
 Thomas, E 120
 Thomson, J W 158
 Tournieu, 168
 Tscherniak, M 147
 Turck R C., 127
 Turner W G., 147
 Tuszkai 169
 Ulrich J 127
 Valentin, B 148
 Vidakovich C 12
 Vogel F 163
 Von Dungen 153
 Von Fürth, O 15
 Von Lingen L., 58
 Von Ruck, K 153
 Wallart, J 16
 W. kins, T J 159
 W. tson F C 154
 Wegner A 63
 Wenbel, W 158
 Weil S., 133
 Wenckebach, K. F 131
 Whipple, G. H., 140
 White G R., 138
 Wyler J S., 80
 Zuckin, A E 176

TABLE OF CONTENTS

I	EDITORIAL ANNOUNCEMENT	xi
II	AUTHORS	ii
III	INDEX OF ABSTRACTS OF CURRENT LITERATURE	iii
IV	MONTHLY CRITICAL REVIEW	117-123
V	ABSTRACTS OF CURRENT LITERATURE	124-190
VI	BIBLIOGRAPHY OF CURRENT LITERATURE	191-216

ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

Anesthetics	
COSGROVE R. C.	The Importance and Prevention of Respiratory Obstruction During General Anesthesia in the Inhalation Methods 124
JACKSON C.	Technique of Insertion of Intratracheal Intubation Tubes 124
HARCOCK W. W.	Spinal Anesthesia in Gynecology, Obstetrics, and Abdominal Surgery 124
GELHORN G.	Local and Spinal Anesthesia in Gynecology and Obstetrics 125
MOLINARI	Cause of Paralysis During Anesthesia 126
McGRATH B. F.	A Discuss on of Various Anesthetics and Methods Experimental Observations 126
FRIMSTER H.	Importance of the Anesthetic in the Post-Operative Course in Laparotomy 127

SURGERY OF THE HEAD AND NECK

Head	
TURCK R. C.	Harelip with Illustrative Cases 127
ULASCH J.	The Treatment of Harelip and Cleft Palate Experience with 160 Cases 127
BECKMAN E. H.	The Surgical Treatment of Cancer of the Lower Lip with Report of 100 Cases 128
LOOS O.	The Topography of Injections into the Inferior Alveolar Nerve 128
Neck	
McILLER G. P.	The Treatment of Tuberculous Cervical Lymphadenitis 128

SURGERY OF THE CHEST

Chest Wall and Breast	
CARVER F. M.	Treatment of External Luxation of the Clavicle 129

BETKE	Tuberculosis of the Tracheo-Bronchial Lymph-Glands and Its Surgical Treatment 130
BURCKHARDT H.	Infection of the Thoracic Cavity 130
Miscellaneous	
LEWIS L. T. AND SENIOR H. D.	Teleröntgenogram of the Anterior Thoracic Wall with the Heart in Situ 131
WENCKEBACH K. F.	The Radiology of the Chest 131

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum	
BARNESIDGE W. S.	Technique of the Intra-Abdominal Administration of Oxygen 131
FISCHER M.	Acute Progressive Peritonitis Review of 160 Operated Cases 132
WEIL S.	Rare Forms of Hernia 133
SCHLEY W. S.	Rectus Transplantation for Deficiency of Internal Oblique Muscle in Certain Cases of Inguinal Hernia 133
HILL A. J.	Recurrence of Inguinal Hernia 133
MILLER JR., R. T. F.	Terogenous Mesenteric Cysts 133
Gastro-Intestinal Tract	
RAMSBOTTOM A. AND BARCLAY A. E.	The Diagnosis of a Hair Ball in the Stomach 134
CHAFFIN H. D.	Radiographic Studies of the Gastro-Intestinal Tract in Infants 134
MORSE J. L.	Use of the Röntgen Ray in the Diagnosis of Obscure Abdominal Conditions in Infancy and Childhood 134
SCODDER C. L.	Certain Observations upon Two Hundred Cases of Gastric Disease 134
JANEWAY H. H.	Gastroscopy 135
HEATZ A. F.	The Cause and Treatment of Certain Cases of Vomiting After Effects of Gastro-Enterostomy 135

- LEACH R** How Is It Possible to Exclude the Pylorus and the Duodenum 133
- MORRIS S** Personal Experience with Acute Inflammation of the Bowel in Children 136
- COLLINS, C. N** Two Cases of Obstruction of the Bowels from Unusual Causes 137
- KERR, H. H.** Intestinal Anastomosis with a Report on the Aseptic Basting Stitch Method 137
- COOMAN E. A.** Observation on a Series of Ninety Eight Consecutive Operations for Chronic Appendicitis 137
- WYATT G. L.** Contracture of the Psoas Parvus Muscle in Iliac Appendicitis. 138
- GEORGE, A. W. AND GRUBER I.** The Value of the Röntgen Method in the Study of Chronic Appendicitis and Inflammatory Conditions Both Congenital and Acquired about the Cecum and Terminal Ileum 138
- QUINCY A. J.** Differential Diagnosis of the Appendix by Aid of Röntgen Ray 138
- FALLOV M. F.** An Anatomical and Surgical Study of Pericecal Membranes 139
- EDMUND J. F.** The Colon Its Malignancies 139
- SEITZER E. H.** X-Ray Investigation of Habitual Constipation 140
- Liver, Pancreas, and Spleen**
- WHITFIELD G. H. AND GOODPASTER, E. W.** Acute Hemorrhagic Pancreatitis Peritoneal Exudate Non-Toxic and Even Protective under Experimental Conditions 140
- STREVENOV E. S.** Splenomegaly 141

SURGERY OF THE EXTREMITIES

- Diseases of the Bones, Joints, Muscles, Tendons Conditions Commonly Found in the Extremities.**
- COCKING J. W.** Joint Disease Due to Infection from Other Parts of the Body 41
- JACOBS C. M.** Curative Treatment of Tuberculous Joint Disease 44
- ELY L. W.** The Injection Treatment of Tuberculous Joints 44
- ORR H. W.** Results Obtained in the Non Surgical Treatment of Tuberculosis of the Joints 4
- MIDELTOW W. J.** Some Notes on Arthritis Deformans, with an Analysis of Fifty Cases Treated by Means of Continuous Counter Irritation 142
- FULLER E.** The Cure Through Genito-Urinary Surgery of Arthritis Deformans and Allied Varieties of Chronic Rheumatism 14
- MARTIN I. A. M.** Discussion on the Diagnosis and Treatment of Injuries of the Knee Joint Other than Fractures and Dislocations 14
- Fractures and Dislocations**
- HEPPEL H.** Spontaneous Rupture of the Extensor Longus Pollicis Tendon after Typical Fracture of the Radius the So-Called Drummer's Paralysis 143
- ROSE, O.** Fracture of the Neck of the Femur and the Isolated Fractures of the Trochanter Major and Minor 143
- Surgery of the Bones, Joints, Etc.**
- ROVINSKY T.** A Case of Transplantation of Bone from One Patient to Another (Homoplastic) to Supply the Lower End of the Femur 144
- SEIDEL** Operation for Habitual Luxation of the Shoulder Joint 144
- LOREY A.** Bloodless Operation for Pseudarthrosis of the Neck of the Femur 144
- Orthopedics in General**
- BAMBERG K. AND HULDSCHWY K.** Congenital Fragility of the Bones 45
- ERVEN W. G.** The Treatment of the Results of Anterior Poliomyelitis 145
- MILES, E. P.** A Case of Tendon Transplantation to Overcome Defect Resulting from Poliomyelitis 146
- FARREY F. J.** The Operative Treatment of Paralysis in Children 146
- LODGE, J. P.** The Whitman Operation for Talipes Calcaneus Paralyticus 46

SURGERY OF THE SPINAL COLUMN AND CORD

- TSCHERNIAK M.** Acute Suppurative Osteomyelitis of the Spine 147
- CALVE, J. AND LEBLANC H.** Radiography of the Vertebral Column in Profile in Pott's Disease 147
- TURNER W. G.** The Treatment of Tubercular Spondylitis or Pott's Disease 147

DISEASES AND SURGERY OF THE SKIN FASCIA APPENDAGES

- VALENTIN B.** Experiments on Homoplastic Fascia Transplantation 48

MISCELLANEOUS

- Clinical Entities—Tumors, Ulcers, Abscesses, Etc.**
- STRAUCH F. W.** Experimental Transmission of Tumor Cells 148
- CARR, W. P.** A Study of the Cancer Situation 148
- DE KRATING-HART** Researches on the Pathogenesis of Cancer 49
- LEVIN I.** The Mechanism of Metastasis Formation in Experimental Cancer 149

HUGO, E. W. Trauma and Sarcoma	149	Blood	
ROUSSY G. Cholesteatomas	150	STEWART. Studies on the Circulation in Man. VII	
BENEDIK L. Paraffinoma with Report of a Case	150	The Blood Flow in the Feet	153
HERZLER A. E. Pathogenesis of Congenital Cystic Disease of the Parenchymatous Organs	150	STEWART. Studies on the Circulation in Man. VIII.	
BORST M. The Importance of Zoological and Individual Relationship in the Transplantation of Normal Tissues	151	The Blood Flow in the Feet, with Special Reference to Fever	153
VON FÜRTH O. Problems of Physiological and Pathological Chemistry	151	COOLEY T. B. The Treatment of Hemorrhagic Disorders	154
Sera, Vaccines and Ferments		NOLAN L. AND WATSON F. C. Embolism and Thrombosis of the Superior Mesenteric Artery	154
VON ROCK K. Relative Value of Living and Dead Tubercle Bacilli and Solutions of Their Endotoxins in Active Immunization Against Tuberculosis	153	Poisons	
BRANDWEINER AND HOCH O. Gonorrheal Vaccines	153	MAYO, C. H. Local Foci of Infection Causing General Systemic Disturbances	154
VON DUNGERN AND HALPERN. Complement-Fixation Reaction with Cerebrospinal Fluid in Carcinoma	153	SOUTHWARD E. E. AND CANAVAN M. M. Bacterial Invasion of Blood and Cerebrospinal Fluid by Way of Lymph-Nodes. Findings in Lymph-Nodes Draining the Pelvis	155
		Electrology	
		CLEVENING L. The Use of the X Ray in the Diagnosis of Diseases of the Chest and Abdomen	155
		CZEKAY V. The Non-Operative Treatment of Cancer	156

GYNECOLOGY

Uterus		GAMMELTOFT. Results of the Treatment of Genital Prolapse in the Gynecological Department of the Obstetrical Hospital and in the Gynecological Department of the Reichs Hospital	160
BECKELLER, L. A Palliative Treatment of Inoperable Cervix Carcinoma with Powdered Sugar	157	MÖLLER. Results of Operations for Genital Prolapse	161
RIES, E. Theoretical and Practical Foundations of a Radical Operation for Carcinoma of the Cervix Uteri	157	POLAK J. O. A Study of the End-Results of the Bldy-Webster Operation	161
HERZFELD B. A Contribution to the Statistics of Carcinomas of the Uterus	159	CHILDE C. P. Suggestions for the Technique and Performance by a New Method of Wertheim's Abdominal Panhysterectomy	161
BROWN L. Cancer of the Uterus. Importance of Early Diagnosis	157	Adnexal and Peritoneal Conditions	
WEIBEL W. The Clinical Position of Carcinoma of the Corpus Uteri	158	KEEF C. Two Cases of Solid Pedunculated Papilloma of the Ovary	162
CANDILLA Y. P. L. M. Surgical Treatment of Uterine Cancer	158	LIZCAÑO, P. Inflammation of the Adnexa and Neurons, from Surgical Standpoint	162
VON LINGEY L. Giant Myomatous Cysts	158	WALLANT J. So-Called Salpingitis Isthmica Nodosa	162
THOMSON J. W. Tuberculosis of the Uterus	158	SOMERS, G. B. AND BLAISDELL, F. E. The Anatomy and Surgical Utility of Sacro-Uterine Ligaments	162
MÜLLER. The Findings in Recurrent Hemorrhages after Röntgenization	158	External Genitalia	
SANKS I. Membranous Dysmenorrhea Caused by Endometritis	159	VOGL, F. Traumatic Rupture of Vagina with Prolapse of the Small Intestines	163
WATKINS T. J. Infantile Type of Uterus with Dysmenorrhea	159	LUDWIG F. Uretero-Vesico-Vaginal Fistula after a Criminal Abortion	163
MARTIN F. H. Prolapse of the Uterus	159	MATTISSEHN. Prognosis of Infantile Gonorrheal Vaginitis	163
MONTGOMERY E. E. Vagino-Uterine Prolapse and Its Effective Treatment	160	PUPPEL, E. Dry Treatment of Leucorrhoea	164
KAAREBERG, L. AND SKEDOVY M. Genital Prolapse and Especially the Results of the Treatment	160	THOMAS F. The Etiology of Genital Atresia	164

Miscellaneous

- GURLEY A Chemical and Physiological Properties of Extracts from Organs Determined by Experiments with Extracts from the Uterus, Ovaries, Placenta and Fetus 164

- CALK G W Some Newer Methods of Reducing the Mortality of Operations on the Pelvic Organs 164
ALSECK Deranged Function of the Female Bladder 165

OBSTETRICS

Pregnancy and Its Complications

- CHAPUT Extra-Uterine Pregnancy; the Importance of Violent and Repeated Pain Supra-Uterine Hematocoele 166

- FEMUSTOV R T Extra-Uterine Full-Term Operation with Recovery 166

- KASTANAJEV G M Extra-Uterine Pregnancy in the Gynecological Department of the Obukhov Hospital in St. Petersburg 166

- NAGEL W Eclampsia 167

- SCHMIDT O A Contribution to the Study of Eclampsia Based on Ninety Eight Cases 167

- ROSENBERG W Statistics of One Hundred and Fifty-Eight Cases of Eclampsia and Their Treatment 167

- LANDSBERG E Examination of Urine and Blood in Eclampsia, in regard to the Distribution of Nitrogen Compounds and the Contents of Fibrinogen and Residual Nitrogenous Substances a Contribution to the Question of the Importance of Hepatic Function and Quantity of Fibrinogen in Disturbances of Pregnancy 168

- WEEVER A Treatment of Eclampsia 168

- TOURNEAU The Treatment of Eclampsia 168

- FEVTOV F Report of a Series of Abdominal Cesarean Sections 168

- RACHMANOFF A N Thirty Cases of Classical Cesarean Section 169

- KATZER Classical and Extraperitoneal Cesarean Section Compared 169

- HIRST B C The Modern Extraperitoneal Cesarean Section with a Description of the Best Technique for Its Performance 169

- TUNSKAL Indications for Abortion in Hyperemesis and Heart Disease 169

- LEONHART W The Types of Infection in Criminal Abortion Their Origin and Treatment 170

- SCHREIBER A Bacteriological Examination in the Treatment of Abortion 170

- LEPAGE Treatment of Post Abortion Affections 170

- HEINRICHSDORFF P The Relation of Hyperemesis Gravidarum to Acute Yellow Atrophy of the Liver and Other Post-Mortem Findings 170

- RECASENS S Modern Conception of the Intoxication of Pregnancy 171

- SCIFIADIS E Myoma and Pregnancy 171

- NEUMANN H Diabetes of Pregnancy 171

- STUTZ G Tuberculosis and Pregnancy; Sterilization 172

- BALABAN I A Treatment of Syphilis in the Pregnant Woman 173

- PANKOW The Frequency and Diagnosis of Cardiac Defects During Pregnancy 173

- MAYER A The Relation of Colon Pyelitis to Gestation 173

- SCHLAYER Pregnancy and Disease of the Kidneys 173

Labor and Its Complications

- CHRISTIANI A The Use of the Metreurynter in Labor Complicated by Myoma 174

- SOUTTAR H S Calcified Ovarian Fibroma Obstructing Labor 174

- SORVEY C Rules for Disinfection During Labor and for the Treatment of Post Partum Hemorrhage with a Report of 43 Cases of Manual Detachment of the Placenta 174

- POWICK W The Results of Artificial Premature Labor in Moderately Contracted Pelvis 174

- MILLER A Shape of Head and Mechanism of Birth 175

- JARDINE R The Retraction Ring as a Cause of Obstruction in Labor 175

- BARNET R The Importance of Early Rupture of the Membranes for Labor and the Puerperium 175

Puerperium and Its Complications

- HIRST B C DICKINSON R L AND DILLON J B Report of the Committee on the Treatment of Puerperal Fever 176

- ZAKIN A E The Significance of Hemolytic Streptococci in the Pathology of the Puerperium 176

- AMFIELD F Origin of Endogenous Puerperal Infection 177

- JORDAN J F Vaccine Treatment in Cases of Puerperal Fever 177

- SAYGER H Sudden Death Occurring Shortly after Delivery without Any Apparent Cause and Report of Case of Acute Pancreatic Necrosis 178

- Miscellaneous

- KALMANOWITZ F Serious Anomalies in the Extremities of New Born Child as Result of Pregnancy in Uterus Bicornis Unicollis 178

HEYN A Tumor of the Sacrum	178	HART D B On the Duration of the Interval Between Insemination and Parturition	180
KOPLIK Infant Mortality During the First Four Weeks of Life	179	SCHLIMPERT H AND ISSEL, E Abderhalden's Reaction with Animal Placenta and Serum	180
REYNOLDS, E Further Points on the Sterility of Women	179	THOMAS E Biology of Colostrum Bodies	180
KEMMER, E A New Procedure to Determine Pelvic Measurements by Means of X Rays	179	PARAMORE R H The Intra-Abdominal Pressure in Pregnancy	180

GENITO URINARY SURGERY

Kidney and Ureter		MILLER, A. G Can the Urinary Bladder Empty Itself?	185
LIFFENS Spontaneous Perirenal Hematomas	181	KEYES, JR. E. L. Ultimate Results of the Chetwood Operation for the Retention of Urine	185
BRAASCH, W F Clinical Data on Renal Lithiasis	181	Genital Organs	
VIDAKOVICH C Injuries to the Kidney Vessels	182	CARON M A Case of Malignant Tumor of the Testicle with Remarks	185
BOLAND F K Traumatic Rupture of the Kidney Three Cases	182	OSMERDANOFF Acute Primary Orchitis in Children	186
BILLINGTON W Nephroptosis Its Clinical Significance	182	SOMMER Atrophy of the Prostate Gland	186
SWAIN J Hypemephroma or Mesothelioma of the Kidney	183	SQUIER, J B Vital Statistics of Prostatectomy	186
FOSTER N B Functional Tests of the Kidney in Uremia	183	Miscellaneous	
FIRTH, J L Nephropexy	184	DAVIS, T G Hema-Uro-Chrome. A New Laboratory Test for Cancer and Sarcoma, from the Urine	187
Bladder Urethra and Penis		O'NEIL, R. F AND HAWES J B Remarks on the Rational Treatment of Genito-Urinary Tuberculosis	187
BEER, E The Relative Values of the Röntgen Ray and the Cystoscope in the Diagnosis of Vesical Calculi	184	BEER, E The Use of Tuberculin in the Diagnosis of Obscure Conditions in the Genito-Urinary System	188
BOYCE H. K. The Differential Diagnosis of Bladder Neck Lesions	185		

SURGERY OF THE EYE AND EAR

Eye		Ear	
COATS G Anterior Ring of Opacity in Lens Following Contusion	189	LOTHROP O A. Furunculosis of the External Auditory Canal the Use of Alcohol as a Valuable Aid in Treatment	190
GRADLE H S A Hitherto Undescribed Anomaly of the Macular Retina	189	DEACON, E B Report of Three Cases of Otitic Meningitis Treated by Drainage of the Cisterna Magna	190
SYM, W G Detachment of the Retina Produced by General Edema	189		
FISCHER, K. Sclero-Corneal Trephining for Glaucoma	189		
WYLER J S The Trephining Operation in Glaucoma	189		

SURGERY OF THE NOSE, THROAT AND MOUTH

Nose		trichosis of the Pharynx a New Form of Sporotrichosis of Mucous Membrane Diagnosis, Treatment and Importance	191
McKENNEN D Sinusitis Exulcerans of the Frontal Sinus Operative Trauma of the Dura Recovery	191	BAZ, L Bacteriology of Primary Acute Edema of the Larynx	191
Throat			
GOUGEROT H AND QUELLIEN P Primary Sporotrichosis of the Pharynx			

BIBLIOGRAPHY

GENERAL SURGERY

SURGICAL TECHNIQUE

Operative Surgery and Technique	192
Aseptic and Antiseptic Surgery	192
Anesthetics	192
Surgical Instruments and Apparatus	193

SURGERY OF THE HEAD AND NECK

Head	193
Neck	194

SURGERY OF THE CHEST

Chest Wall and Breast	195
Trachea and Lungs	195
Heart and Vascular System	196
Pharynx and Esophagus	196
Miscellaneous	196

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum	196
Gastro-Intestinal Tract	197
Liver, Pancreas and Spleen	199
Miscellaneous	200

SURGERY OF THE EXTREMITIES

Diseases of Bones, Joints, Muscles, Tendons, General Conditions Commonly Found in the Extremities	201
Fractures and Dislocations	202
Surgery of the Bones, Joints, etc.	202
Orthopedics in General	203

SURGERY OF THE SPINAL COLUMN AND CORD

203

SURGERY OF THE NERVOUS SYSTEM

204

DISEASES AND SURGERY OF THE SKIN, FASCIA
APPENDAGES

204

MISCELLANEOUS

Clinical Entities—Tumors, Ulcers, Abscesses, etc.	205
Serum Vaccines, and Ferments	206
Blood	206
Blood and Lymph Vessels	206
Poisons	207
Surgical Therapeutics	207
Surgical Anatomy	207
Electrology	207
Military and Naval Surgery	208

GYNECOLOGY

Uterus	208
Adnexal and Peristerine Conditions	209
External Genitalia	209
Miscellaneous	210

OBSTETRICS

Pregnancy and Its Complications	210
Labor and Its Complications	211
Puerperium and Its Complications	211
Miscellaneous	211

GENITO-URINARY SURGERY

Kidney and Ureter	212
Bladder, Urethra, and Penis	213
Genital Organs	214
Miscellaneous	214

SURGERY OF THE EYE AND EAR

Eye	214
Ear	215

SURGERY OF THE NOSE, THROAT AND
MOUTH

Nose	215
Throat	216
Mouth	16

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EDITORIAL ANNOUNCEMENT

The February edition of the *INTERNATIONAL ABSTRACT OF SURGERY* marks the first anniversary of its appearance before the medical world. It is the desire of the editor to take this opportunity to thank the medical profession and especially the editorial board for its co-operation assistance, and friendly criticism to which we owe the success that the first year has brought the journal.

The perfection of a system and the creation of a staff capable of carrying on the vast amount of work entailed in selecting and abstracting the best surgical literature from all of the medical publications of the world have necessarily been evolved slowly. At the present time however we believe that our organization is complete and that the only alterations in our future policy will be the addition from time to time of new features which aim toward increasing the value of the journal to its readers.

This month marks the first appearance of the Critical Reviews, one of which will be published in each issue in the future so that at the end of the year there will have been at least two reviews devoted to each of the six major surgical specialties outlined in our scheme.

The Critical Reviews will comprise unprejudiced exhaustive compilations of all of the current literature upon live surgical subjects and should be of great value to every surgeon since he may be able to acquaint himself with the advances in surgery following them step by step and have presented before him in one abstract the different theories and viewpoints of all authorities upon each subject.

INTERNATIONAL ABSTRACT OF SURGERY

FEBRUARY 1924

MONTHLY COLLECTIVE REVIEW

THE NATURE OF SHOCK

A CRITICAL ABSTRACT

By MAJOR G. SEELIG, M. D., St. Louis, Missouri

WITHIN the past year or two America has lived through a renaissance of the shock problem—a renaissance activated by the advancement of a new theory and a new type of therapy. This new line of therapy is emphatically prophylactic rather than specific and rests on the basis of intricate detailed studies in cytology. It is essential that this new statement of the shock problem should be subjected to a searching critique and such a critique necessitates passing in review all previous work done along this line. That such a necessity confronts us will be apparent when we consider that for nearly a century investigators and clinicians have been propounding theories and promulgating doctrines that definitely located the cause of shock in an aberration now of this function or organ now of that. Without exception none of these various theories has stood the tests of searching criticism. It is rational to hope therefore that by passing the various older working hypotheses in review we may at least partially comprehend why they have failed and likewise orient ourselves in a suitably critical attitude regarding the strength and weakness of the new theory.

The word shock was first used clinically in the latter part of the eighteenth century. Up to that time there was no single word to express the notion of grave organic compromise following trauma and unaccompanied by demonstrable organic changes. The ancients who were not unfamiliar with the symptom-complex had dismissed the problem by referring the causative

agency to some *deus ignotus* but as medicine became less and less mystic, and as causal relationships began to be more and more firmly founded the shock problem gradually came into its own and demanded explanation.

In a previous paper written before the birth of the newest theory of nerve-cell excitation I pointed out the interest attached to the facts that the theory of vasomotor exhaustion in shock had been put forward by Keen and Mitchell in 1864; then forgotten and again brought forward by Crile in 1900; that the theory of reflex inhibition which had been formulated by Leyden in 1870 was lost to view and then revamped and restored by Meltzer in 1908; that the theory of primary cardiac involvement had been developed *in extenso* by Blum in 1876 had lost caste and was then rehabilitated by Boice in 1908. In view of all this, there is a certain amount of fascination in the knowledge that our latest theory of inordinate excitation of the nervous cellular mechanism was anticipated purely on prior grounds, by Travers in 1827 and that Travers' reasoning was further supplemented by Sir Astley Cooper in 1835. Obsequies and resurrections have never been quite as frequent as this in any other surgical field.

And how may we explain this constant change of front? On two grounds. In the first place a failure to recognize what was so clear to the elder Gross namely that shock is a rude unhooking of the entire machinery of life and that we must therefore proceed cautiously in attempting to

locate the unhung at the door of any one particular organ or function. Secondly we find an explanation for the multiplicity of theories in the frequent misinterpretations of experimental data or in the drawing of unwarranted conclusions from properly collected data. For example to take up the most common type of confirmed faulty reasoning, almost every investigator of shock develops his line of thought around the central point that low blood pressure signifies shock. And so indeed it does, but it has never been proved and should never be assumed that low blood pressure is the primary causative agency of shock. Blood pressure readings are to shock what thermometric readings are to a summer day. One tells us the degree of pressure and the other the degree of heat, but what causes the rise or fall of pressure or the greater or lesser heat—that is another problem. And yet as one goes through the literature of shock it is necessary to battle against the conclusions that low blood pressure either causes shock or is synonymous with it.

The needs of more specific criticism make it imperative to deal critically with the development of the more commonly accepted theories of shock, as we know them today. In order to do this we shall select for analysis the following prevalent doctrines regarding the causative factor in shock which is stated variously to be

- 1 Vasomotor exhaustion and paralysis.
- 2 Cardiac spasm and eventual failure
- 3 Inhibition of the functions of all the organs.
- 4 Deficiency of carbon dioxide in the blood (acapnia)
- 5 Morphologic changes and eventual partial or complete disintegration of the ganglion cells

The theory of vasomotor exhaustion as the essential cause of shock was established on what seemed at the time to be a firm basis by Crile. His argument is based on the facts that the essential phenomenon of shock is low blood pressure and that since there is no demonstrable lesion in fatal cases and no later effects in those that recover we must assume exhaustion rather than structural lesions to be the cause of this fall. This exhaustion may be resident in the cardiac muscle cardiac centers, blood-vessels or vasomotor centers. The heart is not exhausted for in profound degrees of shock if the pressure be raised artificially the heart will be found to be competent. The cardio-inhibitory center is not exhausted for it responds to stimulation during active shock. The cardio-accelerator center is not only not exhausted but is active up to the time of death furthermore shock occurs

even when the heart is isolated from the nervous system by severance of the vagi and accelerantes. Since we may exclude the heart as an essential factor in shock we must look to the loss of peripheral resistance as the essential factor. The peripheral nerve-vascular mechanism is not exhausted for it invariably responds to an intra-vascular injection of adrenalin therefore it must be assumed that the vasomotor centers themselves are exhausted and this assumption is confirmed by the fact that in shock these centers do not respond to electric stimulation of peripheral nerves to severe trauma to physiologic doses of strychnine or to deep asphyxia.

In essence this theory asserts that the vasomotor centers are exhausted and that therefore the peripheral vascular system is toneless and relaxed. In Crile's own experiments there are many data that may be used to prove his conclusions not entirely warranted. But rather than enter into a prolix criticism of data, it probably will be more interesting to state the various grounds on which later investigators have attacked the vasomotor exhaustion theory. In England the war was opened by Malcolm, who, on purely clinical grounds, contended that the vasomotor centers were active throughout shock and that the peripheral vascular system was contracted rather than relaxed. He argued to this conclusion from the facts that in shock the surface of the body is cold, the skin pale, the pulse small, the mucous membranes blanched, and the bleeding from surface wounds scanty. This carefully worked out clinical argument created a storm center, with Malcolm against Mummery in the vortex. As a matter of fact, the argument degenerated to the level of rather bitter polemics and this despite the delightfully suave and well-pounded compromise suggested by Sheen, who showed that Malcolm had failed to take into consideration that in shock, an unduly large proportion of the blood is in the abdomen and that as a natural result the peripheral vessels are small, being neither dilated nor contracted but rather passively retracted. This was a wise observation of Sheen, too scantily noted by all investigators of the shock problem. Crile himself pays practically no attention to the abdominal venous engorgement (veno-pressor disequilibrium of Henderson) and some of my own experimental work despite its fairly general acceptance is open to serious criticism on account of failure to realize that the altered distribution of the blood in shock must be taken into consideration at all stages of every experiment.

The vasomotor exhaustion theory has also been

attacked directly by the physiologists Porter Henderson and Lyon and indirectly by numerous other investigators who bring forward theories of their own—Vale Kinnaman Schur Weisel Bainbridge and Parkinson Porter working alone and with Quimby showed that the central end of the sciatic could be stimulated for hours without causing a fall of pressure Furthermore they found that when an animal was in extreme shock the vasomotor centers nevertheless responded to electric stimulation thus demonstrating that exhaustion of these centers could not be predicted Porter furthermore called attention to the fact that we must consider fluctuations of blood pressure not from the absolute but from the percentage point of view

Tyrell Gray and Parsons made the important suggestion that simply because an animal in shock does not show a rise of blood pressure on stimulating or traumatizing a certain part of the body does not prove that the vasomotor centers are exhausted It may be probable they say, that the pain impulses may have exhausted the synapses in the path from the part stimulated to the center and that the vasomotor centers themselves are intact.

Henderson believes that in shock the vasomotor center does its full duty almost to the last that failure of the circulation is due to the diminution of the volume of the blood by transudation of its fluid out of the vessels into the tissues, and that there is no fatigue or inhibition or failure of any sort in the vasomotor center Henderson noted in his experiments that his dogs usually died of respiratory failure long before arterial pressure had fallen to such an abnormally low level as would accord with Crile's definition he shows further from Crile's protocols that respiratory failure was a strikingly important phenomenon and on the basis of this observation he not only denies the possibility of vasomotor exhaustion but also works out his own theory of apapnia In part, he supports his arguments against vasomotor exhaustion by the conclusions of Seelig and Lyon

Seelig and Lyon in two papers, contest the validity of the doctrine of exhaustion of the vasomotor centers In their first paper they measured the outflow of blood from the femoral vein in a normal dog before and after section of the sciatic nerve After section of the nerve the outflow was more rapid as was to be expected This same experiment was performed on a dog in shock and despite the shock the outflow was more rapid after section of the sciatic, even more rapid proportionally than in the normal dog

thus demonstrating that the vasomotor center was transmitting active tonic impulses through the sciatic, even in a state of profound shock Moreover by ophthalmoscopic examinations they determined that the arteries of the retina not only did not dilate but rather that they actively contracted as the animal went into shock As joint author in this work it is only fair for me to state that Erlanger contests our reasoning as regards rate of outflow and also that we should have proven but did not that the contraction of the retinal vessels is really an active tonic contraction and not a passive one due to empty vessels In a second paper Seelig and Lyon attack the problem from a different point of view They emphasize the fact that in normal animals stimulation of the central end of the cut vagus causes a rise of blood pressure and that this rise occurs even when the animals are in the profoundest degree of shock Furthermore utilizing Porter's doctrine of percentage rise they found that the rise was proportionally as high in profound shock as in the normal animal. In order to exclude all reflex effects on the heart they cut both vagi and removed the right and left stellate ganglia but even after these procedures stimulation of the central end of the vagus was followed by a rise in pressure. These authors conclude from their experiments that the vasomotor centers are active in shock.

Shortly after the publication of Seelig and Lyon's work Bartlett by measuring the rate of inflow of saline solution into the femoral vein reached the conclusion that during shock the vessels were relaxed and that the tone of the vasomotor centers was decreased (not exhausted) Bartlett however does not seem to have sufficiently controlled the question of collateral circulatory phenomena nor the question of the escape of the injected salt solution from the smaller arterioles of the extremity experimented upon

All in all the weight of evidence seems to be that the vital vasomotor center a center controlling a so-called fundamental function does not exhaust as easily as the doctrine of Crile presupposes indeed it would seem that it is one of the last centers to break down in shock

The failure of the vasomotor exhaustion theory to account satisfactorily for the condition of shock naturally led to the propounding of other theories. Of these none has made a stronger appeal to the clinician than the doctrine that cardiac failure is the essential element in the obscure symptom-complex—a principle laid down most emphatically by Boase although Howell also admits cardiac

shock as well as vascular shock. Boise who bases his views largely on the experiments of Crile Howell and Porter attempts to prove that as a result of excessive stimulation of the augmentor nerves of the heart (due to peripheral trauma) this organ is thrown into spasm that therefore in shock there is increased systole decreased diastole lessened output of blood from the heart and therefore low blood pressure. The lowered blood pressure in its turn leads to further decrease in the output, establishing as it were a vicious circle. By administering veratrine to shocked animals Boise claims to have remedied the condition of shock markedly by causing a decrease in systole an increase in diastole and a slowing of the pulse rate. Unfortunately Boise's argument cannot be accepted. He fails to take into consideration the existence of depressor impulses he fails to realize that the cardiac output is necessarily limited owing to the fact that the splanchnic venous area is engorged and furthermore he has not explained away the work of the numerous investigators who have thoroughly isolated the heart from all afferent paths and still been able to induce shock. The heart is compromised in shock beyond a doubt but cardiac inefficiency is certainly not the primary cause of shock.

Meltzer, it was, who developed in his characteristically lucid fashion the doctrine of inhibition of functions as the underlying essential phenomenon in shock. Meltzer contrasts the views of Crile with those of Howell who believes that the vasomotor centers are not exhausted but that the prominent factor is an inhibition of the centers in the medulla. He then shows that Porter also disagrees with Crile but that the two physiologists Porter and Howell disagree also. He then advances his own argument, which is based upon experiments performed primarily in an investigation of peristalsis. Meltzer ventures the assumption that the various injuries which are capable of bringing on shock do so by favoring the development of the inhibitory side of all the functions of the body. This predominance of inhibition makes its appearance at first in those functions which are of less immediate importance to life and are therefore less insured by safeguards protecting their equilibrium. With increased injury the inhibition also spreads to the more vital and better protected functions of the nervous system. Meltzer is careful to specify that he considers inhibition only as a primary effect and that during shock other influences must become secondarily active so that anemia, hypoxia or even fatigue might become opera-

tive during the progress of shock. Such a doctrine as this serves well as a physiological hypothesis but to the clinical mind searching for light it is not very satisfying. The argument as to exactly what the term inhibition connotes is not definitely settled and therefore one hardly feels satisfied to appropriate inhibition as a cause. In a very recent contribution Short refers to Meltzer's conception as an abandonment of the problem.

The doctrine of ascapnia viz. that shock is due to a deficiency of carbon dioxide in the blood, was enunciated by Henderson within the past decade and for a time stimulated much work and much criticism. Henderson argues that the traumata that induce shock cause rapid deep breathing (hyperpnea) as the result of pain or excitement. This rapid deep breathing in its turn causes an undue ventilation of the lungs during which ventilation carbon dioxide is rapidly swept out of the circulation. Furthermore, when viscera are exposed in an ordinary laparotomy carbon dioxide is exhaled from their surfaces, thus lessening the quantity of this gas in the blood. By blood gas analyses Henderson claims to have proved this primary contention beyond a doubt. Now carbon dioxide is not as it is so commonly regarded merely a poisonous excretion. It is an important regulatory hormone upon whose presence for instance the activity of so vital a function as respiration depends. Henderson shows that it is possible by excessive artificial respiration alone to induce a state of shock that will be followed by death in a few hours and conversely that a state of shock may be warded off by increasing the so-called dead space of the respiratory tract thus conserving the carbon dioxide content of the blood.

Henderson's explanation of low blood pressure in shock has been concisely summarized as follows. When there is a reduction of carbon dioxide in the blood the walls of the veins relax, the pressure in them falls, blood accumulates in them and only a small amount is transmitted to the heart. Constriction of the arteries may for a time maintain a fair blood pressure. At last the supply reaching the right auricles becomes so reduced that arterial pressure falls the heart beat becomes quick, the output is small and severe shock is established. Deficiency of carbon dioxide has another remarkable effect. When the deviation from normal is considerable there is a tendency for fluid to exude from the plasma into the tissues. The plasma therefore becomes concentrated and the total volume of blood diminished. Early in the course of shock, an

intravenous infusion is remedial later on it fails because the fluid merely escapes into the tissues. Henderson emphasizes and re-emphasizes the phenomenon of venous pressure disequilibrium which leads to a subnormal venous return to the heart the final fall in arterial pressure being dependent upon the consequent reduced output of the heart and in no sense upon an exhaustion of the vasomotor centers. If in a state of profound shock stimulation of sensory nerves does not result in a rise of pressure it is because there is so small a quantity of blood circulating and so large a quantity stored in the intra abdominal veins. Henderson credits the experimental evidence that claims venous pressure to be regulated by the carbon dioxide content of the blood rather than by the nervous system so he sees in the venopressor disequilibrium another bit of evidence in favor of acapnia as the primary cause of shock.

What may be said in criticism of this doctrine of acapnia? First and foremost that clinically we do not encounter the phenomenon as outlined by Henderson. It is rare to see hyperpnoea so prolonged as to ventilate the lungs excessively and secondly the modern surgeon does not expose viscera in such fashion as to permit extensive exhalation from them. From the purely scientific point of view of the physiologist the doctrine of acapnia was actively attacked at the meeting of the American Association of Physiologists two years ago. Howell showed by perfusion experiments that the heart will beat in complete acapnia. He used perfusing fluids that contained absolutely no carbon dioxide. Erlanger subjected the figures of Henderson's blood gas analyses to close examination and demonstrated that by Henderson's own figures, some of his animals in shock did not show a reduced blood content of carbon dioxide. Erlanger furthermore emphasized the fact that the quantity of carbon dioxide in the blood was not even approximately as significant or important as was its tension and yet Henderson practically ignores the question of tension. Short attempted to check up Henderson's views by determining the carbon dioxide content of the blood in normal individuals and in shocked patients. As a result of his determinations he came to the conclusion that acapnia is not the primary factor in shock. In five normal individuals he found that the carbon dioxide content of the blood was 46.4 per cent whereas in five shock cases the carbon dioxide content was 46.9 per cent. Seelig attacked the problem from the following point of view. If shock be primarily due to acapnia which in its

turn leads to low blood pressure then it seems reasonable to assume that by supplying the blood directly with an increased quantity of carbon dioxide gas we should be able to avert shock or at least to restore blood pressure after the process of shock had started. Seelig found that with ordinary care he could safely introduce carbon dioxide gas directly from a generator into the femoral vein of an animal. He found furthermore that by thus directly increasing the carbon dioxide of the blood he could not influence the course of shock. The conclusion that acapnia does not suffice as a cause of shock therefore seems to be inevitable even despite the large quantity of data so carefully collected by Henderson over so long a period of time.

Finally we come to the last of the theories which we have undertaken to review a theory which has been styled by its propounder G. W. Crile the exhaustion hypothesis. This hypothesis assumes that animals that are especially capable of being shocked are those whose self preservation is dependent upon special forms of motor activity that motor activity is excited by adequate stimuli through nerve tissue directly. Whatever may have been the origin of the motor mechanism and its adaptive response on stimulation there is in each individual at a given time a limited amount of potential energy that motor activity following each adequate stimulus diminishes the amount of this potential energy that in any animal a sufficient number and intensity of the stimuli leads inevitably to exhaustion or death that when the motor activity takes the form of obvious work performed such as running the phenomenon expressing the depletion of the vital force is termed physical exhaustion and that when the expenditure of the vital force is due to stimuli which lead to no obvious work performed especially if the stimuli are strong and the expenditure of energy rapid it is designated as shock.

In support of this hypothesis Crile arrays his evidence with the purpose of showing that the phenomena of exhaustion from physical exertion closely resemble shock that shock may be acute or chronic that in shock every organ of the body exhibits certain evidences of pathologic physiology that recovery from shock often takes a long time that fear and trauma have a common phylogenetic origin and are akin and that in the brain cells there is found a physical basis of shock.

Of all this evidence that which concerns demonstrable changes in the brain cells is the one that commands most interest. The relationships between exertion and exhaustion and fear and

ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

ANESTHETICS

Coburn R. C.: The Importance and Prevention of Respiratory Obstruction During General Anesthesia in the Inhalation Methods. *Am J Surg* 1913 xxvii 361

By Surg. Gynec. & Obst.

The author's aim is to draw attention to the prevalence and importance of obstruction in the upper respiratory tract in anesthesia by the inhalation methods. The lower part of this tract is a reservoir of ample size to accommodate ordinary variations in demands for pulmonary ventilation while the upper part is chiefly for conduction and only of sufficient size for the passage of necessary air currents. Therefore the serious embarrassment to respiration by even the slightest encroachment upon these upper passages by any obstruction, as growths or deformities, swelling from venous congestion, excessive mucus, the tongue falling over the larynx etc. Nitrous oxide doubles the pulmonary ventilation and reduces the caliber of the conducting passages, which, continuing makes a vicious circle, more air being demanded and less admitted. A high Trendelenburg position is an added hindrance and a serious load to a heart and other circulatory organs already overworked. Restriction of respiration may be gauged by the amount of oxygen used for diminished ventilation means more oxygen. Under other similar difficulties are met, but here the method by insufflation substantiates its claim of lessened shock and easier breathing. All methods of vaporizing the ether remote from the patient and conducting it to a terminal anywhere in the respiratory tract should be called, as certain writers have claimed insufflation which is prominently distinguished from inhalation by less irritation and congestion in the upper air passages, hence less respiratory restriction a quieter respiration, less shock and less vomiting. This indicates clearly that inhalation methods are characterized by more or less respiratory restriction, which increases respiratory effort and devalues the patient. The distinctive benefits of insufflation less obstruction, even administration, and warm vapor should be attained in a proper administration by inhalation. To this end curved tubes have been devised one of metal by Connell and one of rubber by the author the only objection ever made to them has been the possible entrance of liquid ether into the pharynx when used with the open mask but this can be avoided. In conclusion, the anesthetist's success

depends upon observation of details, and an important detail neglected daily in many operating rooms is this prevention of obstruction in the upper air passages.

FRANK W. PIERCE

Jackson, C.: Technique of Insertion of Intratracheal Insufflation Tubes. *Surg. Gynec. & Obst.* 9:3 xvii, 507

By Surg. Gynec. & Obst.

From the viewpoint of a laryngologist, the author describes the technique of the exposure of the larynx with the direct laryngoscope giving illustrations of the various steps in the procedure. He sums up the most important points to be observed as follows:

1 The patient should be fully under the anesthetic by the open method so as to get full relaxation of the muscles of the neck.

2 The patient's head must be in full extension, with the vertex firmly pushed down toward the feet of the patient so as to throw the neck upward and bring the occiput down as close as possible beneath the cervical vertebrae.

3 No gag should be used, because the patient should be sufficiently anesthetized not to need it and also because wide gagging defeats the exposure of the larynx by jamming down the mandible.

4 The epiglottis must be identified before it is passed.

5 The speculum must pass sufficiently far below the tip of the epiglottis to prevent the latter from slipping.

6 Too deep insertion must be avoided, as in that case the speculum goes posterior to the cricoid, and the cricoid is lifted exposing the mouth of the esophagus which is bewildering until sufficient education of the eye enables the operator to recognize landmarks.

Babcock W. W. Spinal Anesthesia in Gynecology, Obstetrics and Abdominal Surgery

J. Am. M. Ass. 19:3, 1253.

By Surg. Gynec. & Obst.

Babcock discusses the history the physiological action his personal experience in 3053 cases, and the technique of administration, of spinal anesthesia. The substance chiefly employed was stovaine although cocaine, aluprin, and eucaine lactate were also used in a small number of cases. Tropocaine and novocaine were each used several hundred times.

Under spinal anesthesia, the abdominal walls are relaxed, abdominal breathing is largely abolished, the anal sphincters relax, and the gaseous and liquid

contents of the large intestines escape the intestinal tube contracts and shows active peristalsis. The ileus is usually promptly relieved by the injection except in certain forms of mechanical obstruction. The stomach in some degree shares in the peristaltic stimulation and nausea is often noticed. Urinary secretion is distinctly diminished as a result of lowered blood pressure. A fall in blood pressure and a slowing of the pulse occurs decreasing gradually to zero at the wrists, the higher the dorsal nerve-roots become involved. The hypotension favors cardiac arrest in certain forms of myocardial disease as well as in thoracotomy and other operations causing sudden changes in intrathoracic pressure.

In aneurisms threatened decompensation in valvular diseases in the excessive tension of eclampsia, in labor nephritis and advanced arteriosclerosis the vaso relaxation of spinal anesthesia may be protective. Therefore spinal anesthesia should be used with care or avoided in conditions of marked hypotension while it is indicated in forms of hypertension. Spinal anesthesia should not be used in severe shock although it prevents to a remarkable degree the production of shock by operative procedure carried out under its influence. The best antidote for the fall in blood pressure is the intravenous injection of a physiological salt solution containing from two to ten drops of epinephrin to every six ounces of salt solution the flow being interrupted as soon as the pulse returns to the wrist.

The respiratory movements diminish according to the degree of paralysis of the respiratory muscles. If artificial respiration is necessary it can conveniently be carried out by rhythmic compression of the thorax or by forced artificial respiration. Uterine contractions continue under the anesthetic but being without the aid of the voluntary expulsive forces they are as a rule inefficient.

Spinal anesthesia is of chief value when its application is based on its peculiar physiological action and when it is used in conditions that render the use of other anesthetics dangerous. Babcock has used the anesthetic in 128 cases of operations on the stomach, 173 cases of operations on the liver gall bladder and ducts, and in 321 cases of operations for acute pancreatitis, on the spleen omentum and mesentery. In about 80 per cent of these operations on the upper abdomen narcotics have been used in addition to the spinal anesthesia, and in about 10 per cent the action of the spinal anesthesia has been supplanted by the use of ether. It is more difficult to produce spinal anesthesia in the upper abdominal segments.

Spinal anesthesia has been used in 829 operations on the appendix, 19 on the intestines, 502 herniotomies and operations on the abdominal wall in 307 abdominal operations on pelvic organs and 254 vaginal operations involving the peritoneal cavity. It has its chief value in operations involving the segment of the lower abdomen and pelvis. Babcock obtained a mortality in operation on the appendix of 9 per cent in a series of 10 consecutive

and unselected operations irrespective of the degree or duration of any associated peritonitis. He has had little trouble from post-operative tympany and recalls no instance where operation was required for post-operative ileus. Spinal anesthesia was used in 107 operations on the kidney and in 54 on the bladder. It has a special value in such operations. It also gives very satisfactory relaxation of the perineal muscles and was used in 543 plastic operations and in procedures involving the rectum and genitalia. A summary of 303 obstetric operations is given 173 of the cases being reported by Applegate and 109 cases by Steel in none of which were diminution of uterine contraction post partum hemorrhage or other ill effects observed. Spinal anesthesia has the advantage in obstetric practice of producing no ill effects on children. In conclusion a description of technique is given.

HENRY SCHMITZ

Gellhorn G Local and Spinal Anesthesia in Gynecology and Obstetrics *J Am Med Ass* 9 3 1934 By Surg Gynec & Obst

Preparation for any anesthesia should begin at least a day prior to the operation. Nervous patients should receive bromides, valerian or other sedatives as soon as they enter the hospital. Veronal should be given on the evening preceding the operation. Morphine atropine or morphine scopolamine should be administered hypodermically half an hour before beginning the operation. Before the patient enters the operating room his eyes are covered by a mask and his ears filled with cotton saturated with olive oil. For the local infiltration anesthesia a 1 to 2 per cent solution of novocaine suprarenin is used. It is possible to perform a number of minor gynecological operations without danger and discomfort to the patient such as dilatation of the cervix, curettage trachelorrhaphy amputation of the cervix, discision of the os uteri, excoriation of cancer and repair of a vesicovaginal fistula. Local anesthesia also is used in incomplete abortions to empty the uterine cavity and in induction of labor by means of bags.

For the spinal anesthesia Gellhorn uses 2 ccm of a 10 per cent novocaine solution which contains 5 drops of a 1 to 1000 solution of suprarenin. The fluid is introduced in the space between the third and fourth lumbar vertebrae. The analgesia lasts as a rule from one to one and a half hours. Gellhorn used spinal anesthesia in 63 operations among which were 37 laparotomies and 14 vaginal operations. In 2 cases spinal anesthesia was attempted but not carried out. The age of the patients ranged from 17 to 64 years. Of these 63 operations analgesia was insufficient in one case of a complete tear with exophthalmia. In 3 other cases it was imperfect. In 6 of the remaining 57 cases a few whiffs of ether had to be given the patients being either too nervous or the time of operation too extended. In 41 cases there was a complete absence of pain.

speech is not improved, the author recommends treatment by prosthesis. In the milder cases Von Langenbeck's operation is usually done and with vocal training the results are uniformly good. In many cases normal speech follows the operation. In this operation Gelfer's speculum and Trelat's needles can be used to advantage. The muscles of the soft palate can be separated at their insertion into the hard palate and the nasal mucous membrane removed according to Berry by means of curved scissors.

In the 71 cases of cleft palate operated by Langenbeck's method, 33 resulted in primary union, 30 were operated upon a second time with good results and 7 had partial union. One child died of broncho pneumonia. In 2 cases Lane's operation was used and followed by primary union but after one to two years the palate had atrophied and the cleft had become larger. The results were so unsatisfactory that the author has abandoned that method. In 14 cases Brophy's method was applied on the same principle as the application of a clamp to hold both parts of the superior maxilla in place. In 4 of these cases death resulted from sepsis, and as the union of the soft parts took place with extraordinary difficulty even in infants the author has also given up this method of operation. *Acoc Koca.*

Beckmann E. H.: The Surgical Treatment of Cancer of the Lower Lip with Report of 199 Cases. *J. Ohio St. M. A.* 1913, 4, 85.
By Surg. Gynec. & Obst.

Cancer of the lower lip is ideally situated for an early diagnosis. All cancers during the early stages of the disease are localized to small areas and while thus localized can almost always be cured. Microscopic examination of tissues by a competent pathologist gives the only absolute proof of a correct diagnosis. The principle underlying the cure of cancer of the lower lip is the same as that involving the cure of cancer in any other part of the body, i. e., primary growths together with the glands into which the area of the growth drains must be thoroughly removed.

It is advisable in every case to remove the lymphatics on each side at the primary operation. This should include the submaxillary salivary glands also since it is impossible to completely remove the lymph nodes and leave the submaxillary salivary glands. After removing the glands from one side they should be examined microscopically and if involved the dissection should be carried down that side, making a block dissection. Both the anterior and posterior deep jugular lymphatics should be removed.

The percentage of cures following primary radical operation for cancer of the lower lip in the Mayo Clinic is 83.8. Of these cases which were traced 3 were operated on one year ago, 15 between 1 and 2 years, 27 between 2 and 3 years, 20 between 3 and 4 years, 15 between 4 and 5 years, and 4 more than 5 years. In 18 cases glandular

was demonstrated by microscopic examination at the time of operation.

The results of the cases treated are shown by the following table.

CANCER OF THE LOWER LIP

Group	No. cases	No. operated	Throat	Not resected	Cured	Not cured	Not reported	Not operated
I Clinical diagnosis only	3	3	6	0	3	3	7	
II Primary radical operation (glands involved)	26	26	99	7	83	6	9	93
III Late radical operation (glands involved)	5	5	20	5	14	6	8	70
IV Glands removed one side or incomplete	5	5	5			3		20
V Local excision only	8	8	5	3		6		71

Loos O. Th. Topography of Injections into the Inferior Alveolar Nerve (Zur Topographie der Injektion in den Nervus alveolaris inferior). *Deutsche Monatsschrift f. Zahnheilk.* 1913, 35, 357.

By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

Loos made injections of fluid gelatine colored with methylene-blue into the inferior alveolar nerve of cadavers, according to various methods, and found that the walls of the area infiltrated the pterygo-mandibular spaces are formed toward the midline by the fascia which covers the internal pterygoid muscle laterally by the periosteum of the mandibular sulcus of the ascending ramus and above by the lower border of the belly of the external pterygoid. The inner wall goes sharply toward the tongue and contains the nerve which comes out below the inner border of the external pterygoid muscle and from there extends obliquely outward and downward to the mandibular foramen. In the outer wall are the vessels. The inferior alveolar artery branches off not quite 1 cm below the incisura semilunaris from the internal maxillary artery which runs almost parallel to the border of it, and keeps close to the bone until it reaches the foramen. Consequently the artery and the nerve lie at a sharp angle to each other in a more frontal plane and if we liken the pterygomandibular space to a pyramid the apex of which is on the foramen the artery forms the posterior lateral side, the nerve the inner anterior side and the internal maxillary lies in the base of the triangle. To avoid a laceration into the musculature in making an injection or striking the vessels, it is advisable to feel along the bone. In this way an injection into the internus can certainly be avoided. The puncture of a vessel however can be avoided only when the injection is made a short distance from the bone. *Henck.*

NECK

Möller G. P. The Treatment of Tuberculous Cervical Lymphadenitis. *Ann. Surg. Phila.* 9, 3, 1914, 433.
By Surg. Gynec. & Obst.

A comprehensive study of the literature of the ten years as well as a analysis of 203 cases of

tuberculous lymphadenitis studied in association with Frazer are the basis of the author's present conclusions. The cervical nodes were affected in 96 cases the inguinal in 3 the axillary in 3 and both cervical and axillary in one. The age of the patients ranged from 12 months to 40 years.

While dwelling upon the etiology in these cases he concludes that tuberculous lymphadenitis represents the local deposits and proliferation of the tubercle bacillus from some lymph vessel draining a particular point of entry, i.e. the faucial tonsil, the pharyngeal tonsils or adenoids, a diseased middle ear, carious teeth, lesions of the buccal and nasal mucous membranes, also from cracks and fissures and diseased skin. The consumption of tuberculous butter or milk, the childish habit of sucking fingers, pencils or other objects picked up from the floor, the consumption of food on which flies have deposited bacilli, and especially hereditary tendencies as well as the occupation of a dwelling formerly occupied by a tuberculous person are all conducive to the spread of the disease.

While the author does not wish it understood that he is opposed to the use of hygienic tuberculin or

the X-ray he is enthusiastically in favor of radical surgery in these cases basing his views upon the extremely low mortality. He quotes a record from the Mayo Clinic where 649 patients have been operated upon without any operative mortality as well as the older records of Jordan, Wohlgenuth and Bloss, whose results are identical with those of Mayo.

In his operative technique Muller is careful to sew the platysma and fascia with plain catgut using worm gut horsehair or the subcuticular stitch for the skin while small pieces of rubber tissue are used for drainage. He pays particular attention to the hygiene of throat wounds. He is painstaking in the matter of nerve isolation and preservation. He advises care lest the caseous contents of the nodes be spilled and concludes with the suggestion that perfect hemostasis be secured.

The author considers the importance of after treatment and says: "While an operation may remove with one stroke all the infected tissue, yet the patient's resistance to tubercle infection is low and his surroundings are still with him."

MATTHEW W. PICKARD

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Cadenat F. M. Treatment of External Luxations of the Clavicle (Traitement des luxations externes de la clavicule). *J. d. M. 93 24, 16.*
By S. R. Gynec. & Obst.

Cadenat undertakes to explain the pathology and a rational mode of treatment of external dislocations of the clavicle. If the dislocation is incomplete it requires no further treatment than that usually prescribed—a sling. If it is the complete dislocation which is very difficult to handle satisfactorily, as no bloodless method has as yet been devised to hold the dislocated clavicle in place.

From numerous experiments on the cadaver and at biopsies it has been shown that complete luxation of the clavicle above the acromion can take place only when the trapezoid and conoid as well as the acromioclavicular ligaments are ruptured.

The first operative attempts at permanent reduction of this dislocation of the clavicle above the acromion aimed at acromioclavicular fixation. This fixation can be complete only after ankylosis of the joint is obtained and in an exhaustive chapter devoted to the physiology of this joint the author shows that such a lysosis must seriously interfere with the function of the shoulder joint; therefore the only operative procedures justifiable are those aiming at reconstruction of the coracoclavicular ligaments. Three methods have been proposed: (a) Direct suture, (b) syndesmoxy, (c) ligamentoplasty.

The direct suture of the ruptured trapezoid and conoid ligaments is so difficult in fresh cases and so

nearly impossible in old cases which are those usually seen in surgical clinics that it is rarely feasible.

Syndesmoxy by means of silver wire passed in a figure eight around the coracoid process and through the clavicle (as practiced by Delbert) is efficacious as long as the wire holds. But the wire invariably breaks and sooner or later the dislocation recurs. This method however is excellent for the treatment of fractures of the external end of the clavicle because union takes place before the wire gives way.

By the use of living tissue in place of wire the author arrives at the method of repair he advocates, namely ligamentoplasty. After experimenting with all the available structures in this region the powerful arch of the acromioclavicular ligament alone satisfied all conditions. Its removal from normal attachments weakens the shoulder against upward dislocations, but these are so rare as to be negligible. The posterior bundle of fibers of this ligament is situated near the angle of the coracoid, its insertions bordering on those of the trapezoid ligament. Its position, therefore, is ideal for the following ligamentoplasty.

A skin incision 8 cm. long is made in the direction of the fibers of the deltoid muscle directly between the acromial and coracoid processes. This incision is carried through the fibers of the deltoid down to the arch of the acromioclavicular ligament. The vessels which cross the field are cut between two ligatures. Next the deltoid is retracted outward the strong posterior band of the acromioclavicular

ligament is identified and cut far out in order to obtain as much length as possible. A suture is passed through the end of the cut and freed ligament and passed behind and brought well up above the clavicle between the fibers of the trapezius muscle (hyperextension of the head and an exaggeration of the dislocation by bringing the arm forward and inward considerably facilitate this maneuver). The next step is to re-establish the acromioclavicular joint by suturing the torn superficial acromioclavicular ligament. If this is deficient portions of the deltoid or trapezius may be utilized. If the reduction is maintained with difficulty the syndesmosis after Delbert is advised. Now the loosened bundle of fibers of the acromioclavicular ligament is attached to the coracoid ligament and the clavicle and the operation is completed by a skin suture.

In considering the indications for these different procedures the author reiterates that subluxations require only a sling and early massage. Complete luxations in women who desire good cosmetic results should be treated by the acromioclavicular fixation. But wherever perfect functional result of the shoulder is desired ligamentoplasty is the best method for strength and free mobility. The time of operation in uncomplicated cases is preferably as soon after the injury as possible. Afterwards the shoulder is immobilized as completely as possible until the sutures are removed on the eighth to tenth day.

LUDWIG FUCHS.

Notzel: Tuberculosis of the Tracheo-bronchial Lymph Glands, and Its Surgical Treatment (Tracheo-bronchialdrüsentuberkulose und ihre chirurgische Behandlung). Beitr. z. Klin. Chir. 1933, LXXXV, 571.

By Zentralbl. f. d. ges. Chir. u. l. Grenzgeb.

The author reports a case in which he successfully removed enlarged tubercular lymph glands at the bifurcation of the trachea to relieve dangerous embarrassment of the respiration. The article discusses fully the clinical picture and the surgical treatment of the condition.

The case history is that of an unmarried woman 39 years old with a family history of tuberculosis. She had suffered for a considerable period from tuberculosis of both apices. As the disease progressed increasing dyspnea developed, which was so bad at times that mediastinal tumor was suspected. The X ray showed markedly enlarged lymph glands at the exit of the right bronchus from the trachea. The removal of these was indicated to relieve the symptoms of suffocation. This was accomplished by entering the anterior mediastinum by Sauerbruch's and Schumacher's method without opening the pleura. The cavity was tamponed. The patient stood the operation well and when she was discharged on the 24th day after operation breathing was normal. Cyanosis and venous stasis had disappeared and swallowing caused no discomfort. X ray showed no shadow at the junction of the bronchus with the trachea. The caliber of

bronchus was normal. Nine months after operation the patient was still well.

This case operated upon by Rehn was the first of its kind. It opens a new field of operative surgery. The complicated topographical relations are illustrated by three plates from the exhaustive work of Sukienikow of the Waldeyer Institute.

Special diagnostic methods for tuberculosis of bronchial lymph glands are described, including tracheo- and bronchoscopic X ray and Delbert's sound palpation which is described as follows: An esophageal sound with a rubber condom attached is passed 23-26 cm behind the teeth. The condom is then inflated. If there is considerable enlargement of the glands a stabbing pain as well as pressure pain is produced. This is generally located in the middle of the chest and more rarely in the back. The many dangerous complications of the disease and the various distressing symptoms demand active measures. Surgical intervention is imperative when pressure from glands produces suffocation or when it is possible to diagnose invasion of the air passages. It is justified when the glands produce severe symptoms as, irritative cough, dyspnea, venous stasis etc. It is to be considered when the enlarged glands are evidently the only virulent tubercular foci.

Notzel.

Burchhardt II: Infection of the Thoracic Cavity (Über Infektion der Brusthöhle). Arch. f. Chir. 1933, 104.

By Zentralbl. f. d. ges. Chir. u. l. Grenzgeb.

With a very fine cannula Burchhardt injected air and a staphylococcus bouillon culture into the pleural cavity of rabbits. In control animals staphylococci were injected without a preceding pneumothorax. In only one of thirteen pneumothorax animals did an extensive pleural infection fail to develop. Of eight control animals only three showed noteworthy pleural infection. In agreement with Notzel and Tiegel Burchhardt concludes that both total and partial pneumothorax predispose in the highest degree to infection of the thoracic cavity. Burchhardt does not agree with Krich that the effusion resulting from the pneumothorax gives the conditions necessary for the development of the bacteria. An effusion may not occur in the first five to six days. He believes that the normal respiratory movements rapidly spread the bacteria over large areas and so enable the animal to combat the infection. On the other hand in pneumothorax the bacteria lie quiet and are able to multiply. The inflamed pleura absorbs more slowly than the normal pleura. Thus a vicious circle results: pneumothorax favors infection, inflammation of the pleura favoring the continuation of the pneumothorax. If exudation takes place after the lung has expanded adhesions and sacculated empyemas form. If the exudation is abundant large empyemas form. Circumscribed empyemas are also the result of partial pneumothorax. Partial pneumothorax remains after thoracotomy (at least in rabbits) even

with expansion of the lung by differential pressure. The author does not consider as convincing the experiments of Tiegel who obtained pleural infections in rabbits both in residual pneumothorax as well as in pneumothorax overcome by positive pressure and explains this result as a consequence of injury to the pleural endothelium. According to his own experience, a partial pneumothorax always remains. Burckhardt does not believe that the injury to the endothelium is responsible but rather injury to the underlying tense connective tissue membrane. If this is damaged the bacteria take hold in the loose connective tissue and multiply rapidly.

SCHUMACHER

MISCELLANEOUS

Le Wald L. T. and Senior H. D. Teleröntgenogram of the Anterior Thoracic Wall with the Heart in Situ. *T. Am. Röntg. Ray Soc.* Boston 1913 Oct. By Surg. Gynec. & Obst.

A teleröntgenogram and explanatory outline-drawing reproduced represent the heart and its valvular orifices in their relation to the anterior thoracic wall. Although the data obtained from a single case cannot be applied universally, the method gives such unequivocal results that it promises to be of value as a means of study.

The subject was a woman who died at the age of 40 of acute pneumonia (without effusion) of the right upper and middle lobes. There was a single small healed tubercle in the left apex but otherwise the organs were normal.

The body was injected through the arteries with equal parts of commercial formalin and water. The injection was begun with the body in the horizontal position and finished with it in the vertical position. The body had been stored in the horizontal position for some months and was frozen. The frozen thorax was removed and then cut by means of a band saw accurately in the frontal plane so as to open both auricles from behind without interfering with the contour of the heart. In the intact anterior portion of the thorax the mitral and tricuspid valves were readily accessible. Wires were bent to fit accurately the groove corresponding to the attachment of the valves to the heart wall. These wires held the position from the auricle and in the case of the tricuspid valve fixed by means of two sutures. The cusps of both the auricular mitral valves were found to be in apposition. The inferior of the aorta was reached through the anterior wall of the left auricle. The region of the inferior vena cava was made accessible by making an incision in the left lung and cutting the ribs longitudinally from the left side. Wires were placed in the aortic and pulmonary fissures placed so that they were in contact with the deepest part of each of the semilunar valves. The wires provided excellent guides in placing them. After the pulmonary ring was placed the edges in the position contemplated.

The first teleröntgenographs were taken with the material frozen; the remaining portions of the lungs and liver having been removed after freezing. The parts were so rigid however that after the first trials freezing was not repeated. It can be said safely that lack of rigidity is not a source of error. To minimize optical distortion the tube was placed six feet from the object which was horizontal with the anterior surface in contact with the plate holder. The light was accurately centered on a spot. This spot was embedded in the skin of the median line of the thorax at the middle of the longitudinal area occupied by the wires.

Stereoscopic röntgenographs were taken in the usual way and the subject was also radiographed in various positions.

The outline was traced from the negative most of the doubtful points in which were elucidated by the stereoscope. The left limit of the superior vena cava and a small portion of the upper right margin of the heart where the latter is confused by the root of the lung could not be determined with certainty. The outline of these regions was therefore omitted but subsequent removal of the heart testified to the approximate accuracy of the dotted lines by which these margins were indicated. Several parts identified in the stereoscopic picture such for instance as the inferior vena cava, the anterior papillary muscles of the right and left ventricles and one of the mitral cusps, were omitted for the sake of clearness.

Wenckebach A. F.: The Radiology of the Chest. *Arch. Rd. & Ray* 1913 xvi 169.

By Surg. Gynec. & Obst.

Wenckebach contends that in radiology of the chest the observer should be not only a good röntgenologist but a good clinician as well, that he may be able to estimate the pathological process as a whole. He claims that Röntgen examination outstrips percussion not only disclosing change of air content but its form and by stereoscopy its position. Stereoscopy is of the greatest value allowing a precise estimate of the position of any structure shown and dispersing any doubt of extrapulmonary lesions. The hilus pictures of healthy persons show marked individual differences and no far-reaching conclusions can be drawn.

Emphysema of the outer parts of lungs by exaggerated percussion note often conceals deep changes which röntgenography easily discloses. In the discovery of small centrally placed infiltrations in pneumonia in the scattered foci of bronchial pneumonia in tuberculo-pneumonia processes (in areas of already impaired resonance) tubercular cavities encapsulated pleural exudates, pleuritic adhesions and metastatic tumors information is often gained which cannot be otherwise acquired. The theory of pneumothorax has undergone a complete change under the influence of röntgenology its frequency and general behavior were first determined by the method which has also made possible

the control of artificial pneumothorax in its therapeutic use

Sterescopy can render invaluable services in the recognition of normal and pathological conditions in

the thorax it offers extended opportunities for further advances in the knowledge of these diseases and their ultimate control

DAVID R. BOWEN

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Bainbridge, W. S.: Technique of the Intra Abdominal Administration of Oxygen. *Am J S & 1913* xxvi 364. By Surg. C. et al. Obst.

In abdominal surgery and gynecology two methods have been used heretofore

1 By continuous current described by Thuriar in 1899 and used by Javaux, Ramond, and others. Quantities up to 600 liters in 36 hours have been used in this way.

2 By injection into the abdominal cavity with immediate closure of the wound.

Bainbridge has employed the latter method since 1901 in more than 125 laparotomies.

His deductions from animal experiments were:

1 Oxygen is completely absorbed in the abdominal cavity.

2 It is a slight respiratory stimulant.

3 It is a slight cardiac stimulant.

4 It has but little effect on blood pressure when gas pressure is moderate.

5 Tends to revive animal quickly from deep anesthesia.

6 Hastens recovery of animal after discontinuance of the anesthetic.

7 A pressure of more than 250 ccm of water causes collapse.

8 Tends to prevent the formation of adhesions.

9 Changes dark blood to scarlet in cases of anoxemia.

10 Stimulates intestinal peristalsis.

11 It is not an irritant to the peritoneum or viscera.

The purposes for which oxygen are administered intra-abdominally are:

1 To lessen shock, nausea, and vomiting.

2 To overcome negative intra-abdominal pressure after the removal of large tumors.

3 To prevent the formation of adhesions.

4 For its effect upon certain types of tubercular peritonitis.

5 For its effect upon pus-producing organisms and the toxins.

The gas employed by Bainbridge was oxygen 94-97 per cent, nitrogen 2-37-45 per cent, a trace of carbon dioxide, no chlorine, no nitrous oxide.

It was used at a temperature of 90-100° F. The gas led through a wash bottle containing hot water into the tubing of a rubber sac submerged in a basin of hot water. To the long tube leading from this sac a sterile rubber tube is connected by a glass connecting tube.

The sterile tube is introduced into the abdomen through the laparotomy wound. The peritoneum is closed up to the tube with a running suture and one interrupted suture is placed in the peritoneum above and below the tube and tied. A pentoneal purse-string is placed about the tube and the ends left untied. The muscles are closed by whatever sutures are preferred; the aponeurosis by interrupted sutures, and a long suture placed in the aponeurosis half way around the tube the ends of which are left untied. The remaining layers of the abdominal wall are closed about the tube.

When the desired amount of gas has been introduced the pentoneal purse string is tied as the tube is withdrawn slowly. The aponeurotic suture is now tied. The knots if both be buried.

Intracellular emphysema which sometimes occurs, is a discomfort to the patient.

Experience continues to verify the earlier indications. The amount is determined in tumors and ascites, by measuring the girth of the abdomen before operation and using enough oxygen to bring the girth after operation up to or just under the previous measurement. In shock and hemorrhage or dullness just obliterated provided the liver is movable.

DONALD GORDON

Fischer M. Acute Progressive Peritonitis. Review of 160 Operated Cases (Über akute fortchreitende Peritonitis. Ein Rückblick auf 160 operierte Fälle). *Berlin Chir.* 93 1909 696. By Zentralbl. f. d. ges. Chir. Göttingen.

Fischer reports 160 cases of acute diffuse progressive peritonitis, treated surgically. In 107 of these the appendix was the point of origin. There was a mortality in these of 12.9 per cent in early cases and 34.9 per cent in late cases, 48 hours being the time limit. The prognosis became worse as age advanced. Following perforated gastric ulcer there were 5 cases with 4 deaths. There were 2 cases of perforated duodenum, 1 ulcer with 2 deaths. All except one case were operated upon 4 hours or more after perforation. The perforation was sutured in all cases and drainage inserted. There was no case of jejunostomy. Of cases following gunshot wound of the abdomen, 11 died. The operation was performed after 24 hours. Six operations followed gastric ulcer of the gut due to strangulated hernia.

All of these patients died the hernias having been incarcerated 2 to 5 days. The remainder occurred in the following connection: 4 with results as indicated in perforated typhoid ulcers with death, 1 operated upon and 4 after perforation one

stab wound operated after 12 hours recovered one stab wound operated after 6 hours recovered two of perforation of a strangulated loop of gut one inflammatory the other a Meckel's diverticulum both died one sloughing invagination of the ileum recovered after resection three post-partum died five pyosalpinx (4 unilateral) 3 died three suppurative parametric conditions, one died, four perforations of distended gall bladders 3 died one perforation of paraneuritic abscess, died one diplococcal peritonitis died In cases of fluid exudate the abdomen was flushed with a salt solution

After closing a number of cases of perforated peritonitis without drainage and having to do a secondary operation for abscess formation the author drained all such cases freely especially through the Douglas pouch In cases of serous discharge the drain was removed in 24 hours, in pus cases it was allowed to remain longer or replaced by a smaller one During and after operation intravenous injection of digalen was used with good results In the after treatment Fowler's position and in suitable cases Kuster's were used In addition to subcutaneous injection of normal salt solution continuous rectal infusions were given In severe cases, and during operation intravenous injections of suprarenin were employed Artificial heat was always used. For paralytic conditions of the gut physostigmin was given subcutaneously In 7 cases the bowel was relieved by one or more punctures After the second day exercises were employed for aeration of the lungs—deep respiration loud talking inflation of an air pillow The prognosis depends largely upon the type of disease.

BLEIZINGER

Well S. Rare Forms of Hernia (Über seltene Hernien) *Ztschr f Anat Forbild*, 913 417
By Zentralbl f d ges Ch u i Grenzgeb

Short descriptions are given of hernias in unusual locations (oval openings in the ensiform process of the sternum internal supravesical hernia inter parietal hernia lateral abdominal hernia obturator hernia Treitz's hernia, and omental hernia) unusual contents of the hernial sac (bladder sliding hernia of the colon hernia of the intestinal wall and true Latré's hernia) and pathological changes in the hernial sac (carcinoma metastases tuberculosis, adhesions) and of the hernial contents (torsion of the omentum and spermatic cord volvulus in a large umbilical hernia ileus and apparent incarceration peritonitis and appendicitis in the hernial sac and incarceration of the appendix) In conclusion several cases of severe injury from attempts of taxis are reported

REINHARDT

Schley W S. Rectus Transplantation for Deficiency of Internal Oblique Muscle in Certain Cases of Inguinal Hernia *A n S f Phila* 913 lvi 473 By Surg Gynec & Obst

Schley discusses the indications for and methods of rectus transplantation in the radical cure of inguinal

hernia The operation is indicated in markedly deficient internal oblique muscle and weak transversalis fascia It is contra indicated in indirect inguinal hernia with a good internal oblique muscle and often in direct hernias Schley describes a method of rectus transplantation that he has followed in twelve cases of indirect hernia with deficient internal oblique and reports apparently perfect repair in all after periods ranging from four months to two years since operation

ROBERT H IVY

Hull A J. Recurrence of Inguinal Hernia *A n Surg Ph la* 1913 lvi 479 By Surg Gynec & Obst.

Recurrence of inguinal hernia may take place in the following classes of cases

- 1 Failure to ligate or suture the sac sufficiently high up
- 2 Cases operated upon by ligature of neck of sac and suture of conjoined tendon over cord to Poupart's ligament
- 3 Recurrence sometimes takes place in cases operated on by ligature of neck of sac and suture of conjoined tendon beneath cord to Poupart's ligament
- 4 Ligature of sac alone
- 5 Ligature of neck of sac and displacing the ligatured neck by buried sutures
- 6 Cases of hernia treated by trusses during childhood

From a consideration of the modes of recurrence the following points appear to be necessary in the operation for hernia (a) Transposition of the neck of the sac (b) constriction of the internal ring (c) strengthening the weak area of the posterior wall of the inguinal canal to the inner side of the internal ring In the typical Bassini operation this is done by suturing the conjoined tendon to Poupart's ligament (d) obtaining adequate pressure along the internal ring (e) strengthening the weak area to the outer side of the internal ring In the operation described by Hull silkworm (fishing) gut is used for the deep stitches which occasions no after trouble

ROBERT H IVY

Miller R T. Enterogenous Mesenteric Cysts *Bull Johns Hopk n H p* 913 xxi 36
By S rg Gynec & Obst

Miller in this article reports in detail a very interesting case of intestinal obstruction due to a congenital enterogenous mesenteric cyst causing volvulus He considers a detailed presentation of a single case of value in view of the fact that there is such a wide difference of opinion as to the genesis of the cysts that a positive diagnosis has probably never been made before the operation or autopsy and that their surgical significance is almost universally ignored

His case was that of a female four days old in which operation and resection were followed by death The symptoms were those of complete intestinal obstruction but the real cause of the

obstruction was not surmised. At the operation there was seen upon opening the peritoneum both dilated and collapsed cyanotic loops of small bowel. Digital exploration revealed in the right flank just below the level of the umbilicus a freely movable mass which proved to be an intramesenteric tumor roughly oval about 4 cm. long in its greatest diameter. A resection and lateral anastomosis was done. Death resulted five hours after completion of the operation.

The specimen removed consisted of an intramesenteric cyst whose wall was, in part, directly continuous with that of the jejunum and whose histological structure resembled closely that of the adjoining portion of the bowel. Its structure and arrangement pointed directly to an enterogenous origin by a process of sequestration during embryonic life.

Miller reviews the literature and presents an excellent working classification of mesenteric cysts of embryonic origin, namely:

1. Cysts of intestinal origin
 - (a) By sequestration from the bowel occurring during development.
 - (b) From Meckel's diverticulum when it arises from the concave side of the bowel (or acquires an intramesenteric position).
2. Dermoid cysts
3. Cysts arising from retroperitoneal organs viz urogenital organs (terminal epithelium ovary Wolffian body Müllerian duct)

GEORGE L. BRITV

GASTRO-INTESTINAL TRACT

Ramsbottom A. and Barclay, A. L.: The Diagnosis of a Hair Ball in the Stomach. *Arch Surg* 1913 xviii 567. By Surg. Gynec. & Obst.

The authors report a case first thought to be splenic aneurysm. Later the mobility of the tumor mistaken for spleen led to roentgen examination. A bismuth meal outlined both lesser and greater curvatures with the tumor showing between. By palpation under the roentgenoscope the tumor was found movable within the stomach and when forced into the gas-filled fundus carried enough bismuth to cast a dark shadow. Diagnosis was so complete that the size and shape of the hair ball were predicted.

DAVID R. BOWEN

Chapin H. D.: Radiographic Studies of the Gastro-Intestinal Tract in Infants. *J Am M Ass* 1913 lxi 2419. By Surg. Gynec. & Obst.

The first two cases studied by Chapin were young infants of seven and eight months. In these he determined the length of time that the barium remained in the intestinal tract. In the first case gas began to appear in the colon in three hours and ten minutes and was expelled into the rectum in seven hours. The second case corresponded closely to the first.

The next study was a series of ten cases in each of

which an enema of barium sulphate amounting to from 4 to 16 ounces was given. X-ray pictures showed the extreme variation in the mobility of different portions of the colon. In one of the cases the ileo-caecal valve was patent and in another case this was probably true. After passing the second the barium passed into the caecum in a very few seconds.

After a study of the X-ray pictures, Chapin is certain that it is not possible to pass a colon tube beyond the upper portion of the sigmoid.

Morse J. L.: Use of the Röntgen Ray in the Diagnosis of Obscure Abdominal Conditions in Infancy and Childhood. *J Am M Ass* 1913 lxi, 1122. By Surg. Gynec. & Obst.

This study consisted in an attempt to diagnose obscure conditions in infancy and childhood. The first three cases were those which offered for diagnosis pylorospasm, pyloric stenosis or some other cause of vomiting. In the first of these it was possible to make a positive diagnosis of stenosis. In the second, spasm was diagnosed while in the third, there was only a gastric indigestion. The next series of cases were those in which there were combined recurrent attacks of vomiting and abdominal pain. The first of these was shown to be due to a prolapse and kinking of the large intestine. The second, which suggested the presence of a stone in the bladder was a case of malposition of the colon. The third was a case of a stone in the left kidney while the fourth was a case of adhesions of the colon and caecum, which diagnosis was afterwards confirmed at operation.

Morse also gives an instance where the cause of constipation was determined by the X-ray. In this case the cause was sluggishness in the colon. He then shows a case where sarcoma of the left kidney could be located by the appearance of a mass between the spinal column and the colon filled with burrhead.

Scudder C. L.: Certain Observations Upon Two Hundred Cases of Gastric Disease. *Boston M & S J* 1913 clxx, 635. By Surg. Gynec. & Obst.

The author dwells upon the very low mortality that attends operations for gastric disease. He considers this as very promising for the future, in that more and more cases of gastric disturbance will be subjected to operation.

In the etiology of gastric disease a remarkable part seems to be played by syphilis. Syphilis of the stomach is more common than is generally supposed; the lesion is a tertiary one and may be a gumma, an ulcer or adhesions extending from the stomach to neighboring organs. In all cases with symptoms of chronic ulcer the author recommends a Wassermann test and if the test be positive the patient should at once be placed under anti-luetic treatment.

For the diagnosis of chronic ulcer the author has been assisted most by a carefully elicited history of the onset and course of the symptoms. Definite pain in the region of the stomach has been the most

common symptom. Hunger pain seems to be more diagnostic of gastric than of duodenal ulcer. Examination of the stomach contents for HCl, blood and motility should be repeatedly performed. In the absence of other causes for hemorrhage, blood in the stools points very strongly to ulcer or cancer.

The X ray has been of great use in the diagnosis of gastric disease. The author believes that every suspected case should be subjected to a fluoroscopic examination and repeated radiographs should be taken.

Cancer of the stomach comes to the surgeon in the majority of cases in the incurable stage. Whenever it is possible however and the condition of the patient will warrant it, an extensive attempt should be made to remove all of the cancerous tissue. In many cases where there is a recurrence the symptoms are markedly ameliorated by an extensive operation and the life of the patient is considerably prolonged.

J. H. SKELLEY

Janeway H. H. *Gastroscopy* *J Am M Ass* 1913
lv 1339 By Surg. Gynec. & Obst.

In considering carcinoma of the stomach only one question presents itself. Is gastroscopy an efficient and practical method of viewing the interior of the stomach? The author presents an instrument that is efficient in that it permits details of the gastric mucosa to be seen with clearness and practical in that it does not involve too much suffering or inconvenience on the part of the patient. The success of this gastroscope depends upon the lamp and lens system, the former being as large as the caliber of the instrument and large enough to illuminate the whole of the distended stomach.

Röntgenoscopy is valuable in conditions around the pylorus where the largest number of ulcers and cancers originate. The gastroscope furnishes information regarding the vertical portion which includes the region occupied by a large number of pathological conditions, particularly those which are difficult to recognize clinically. Thus gastroscopy supplements other objective methods of examination.

Some discomfort is generally experienced and the apprehension felt makes it desirable that the examination be conducted under general anesthesia. Intratracheal insufflation makes anesthesia during gastroscopy possible and by the use of nitrous oxide and oxygen the last objection to the routine use of this instrument in stomach conditions is removed when it may mean so much to the patient. The procedure is devoid of danger as the operator's eye is always on the distal end of the instrument and it is never allowed to progress unless the folds of mucous membrane fall away in front of it.

If gastroscopy and röntgenoscopy are made a routine measure in cases in which carcinoma is possible in a large proportion of cases carcinomata will be found in the author's opinion in an early stage when it is possible to do something for them.

E. K. ARMSTRONG

Hertz A. F. *The Cause and Treatment of Certain Unfavorable After Effects of Gastroenterostomy* *A n Surg Phila* 913 lv 166.

Hertz has been consulted by a considerable number of patients upon whom gastroenterostomies had been performed most commonly for duodenal ulcer. They complained of symptoms which he divides into two groups. The first group is occasioned by too rapid drainage of the stomach recognized by a very unpleasant sense of fullness occurring during each meal, localized slightly lower than the position where the pain or discomfort was felt before the operation. This is accompanied in many cases by slight diarrhea after each meal. In all patients suffering from this group of symptoms it has been found by the X rays that the stomach was small and hypertonic, and that passage of food out of it through the operation stoma was extremely rapid. In all cases little or nothing passed through the pylorus. The sense of fullness in these cases is due to a distention of the jejunum from the rapid passage of food from the stomach. Treatment consists in having the patient lie down for half an hour or an hour immediately after each meal as the stomach empties itself much less rapidly when this posture is assumed. Some preparation of pancreatic ferments to compensate for the deficiency of the normal secretions and small doses of belladonna to relax the involuntary muscle fibers of the intestines, should be given half an hour before meals. The author suggests that the condition might be prevented by making a somewhat smaller stoma when the gastroenterostomy is performed.

The second group of cases are those of extreme dilatation of the stomach in which the situation of the gastroenterostomy opening is above the upper level of the gastric contents, rendering passage of the stomach contents through the stoma a mechanical impossibility while the patient is in a vertical position. In such cases an effective gastroenterostomy must have the stoma so situated that it remains in the most dependent part of the stomach even when the vertical position is assumed.

ROBERT H. IVY

Leriche R. *How Is It Possible to Exclude the Pylorus and the Duodenum* (Comment faut-il réaliser l'exclusion du pylore et du duodenum?) *Lyon chir* 9 3 x 27 By Journal de Chirurgie.

This article is a vigorous protest against Parla vecchio's method of excluding by ligature. The author believes that the only way to obtain a complete final and sure exclusion of the stomach or intestine is to sever the bowel and close each end separately as in the old method of Doyen and von Eiselsberg. This operation is neither long nor complicated especially if it can be performed in the region of the pylorus. By it alone can interruption of the gastro-intestinal circulation be assured.

If a ligature be used even if it be sewed in it gradually cuts through the wall and passes out through the intestine and the closure or stricture is

not permanent. This fact was established by the work of Oliva, Paganelli and Tappeiner the findings of Randisi to the contrary notwithstanding.

Lenche reports two cases. The first was that of a man thirty-seven years of age with symptoms of duodenal ulcer. A posterior gastro-enterostomy was performed and the pylorus was tied off with No. 3 catgut. The immediate result was excellent the pain disappeared and the stomach emptied itself immediately. Two months later however all of the symptoms returned and a radiograph showed the food passing through the pylorus. A second gastro-enterostomy was then performed and the pylorus severed the ends being closed separately.

The second case was that of a woman sixty three years of age. A large cicatricial ulcer of the lesser curvature involved the pancreas. Resection was impossible. The stomach was ligated near the ulcer and an anterior gastro-enterostomy with a button performed on the upper segment and a jejunostomy between the loops. The patient improved but radioscopy showed that the artificial biloculation was not maintained and the stomach emptied itself through the pylorus.

According to the author the only indication for Parlaavecchio's operation is irremovable ulcer of the middle of the stomach. CR. LEROUX

Monrad. Personal Experience with Acute Invagination of the Bowel in Children (Persönliche Erfahrungen über akute Darminvagination bei Kindern). *Kong. Verhandl. d. Nord. kir. Foren. Kopenh.* 1913.

By Zentralbl. f. d. ges. Chir. u. f. Grenzgeb.

The author strongly advocates non-operative treatment. He speaks first of the Hirschsprung-Wichmann method. A narcotic is given to facilitate the injection of an enema. This is followed by massage of the invagination. This method has the disadvantage that frequently after giving the enema the tumor disappears so that it cannot even be felt, and massage can be done only in a haphazard way. For this reason Monrad recommends his own method, which consists of steady traction at the site of invagination directly through the abdominal wall. The bowel is flushed out well from below after employing the method.

The technique is as follows. The patient is chloroformed in order to palpate the tumor accurately. If the invagination is in the colon the lower segment is compressed with both hands for a few minutes, then it is grasped in the left hand while the upper portion is seized with the right. The disinvagination usually occurs quite readily. If this is not the case repeated attempts may be made at intervals of 15 minutes. After this procedure a high enema is given which in itself often disinvaginates the gut in otherwise unsuccessful cases or it completes a partially successful attempt. In cases involving the small intestines and in which the two segments cannot be readily distinguished pressure may be exerted alternately on both ends of the tumor. If

this method does not prove satisfactory in any given case, operation becomes necessary at once. The results were as follows. Of 51 cases 45 were treated by non-operative methods, of which 37 cures were successful, that is 88 per cent. The condition occurred 38 times in the large bowel with 92 per cent successful results 3 times in the small bowel with one failure.

It is often difficult to determine whether the reduction has been successful and to tell whether a slight thickening is due to infiltration of the gut or to partial reduction. If the bowels move freely after apparent reduction success is almost assured, but often this does not occur for 24 hours. Vomiting a little bloody mucus and a rise of temperature are not unfavorable symptoms, but continued attacks of colic and the reappearance of a tumor are serious signs. Contra indications are severe meteorism and peritonitis. Ileo-colic and double invaginations are excluded from non-operative procedures. Unfortunately these cases are hard to differentiate. The duration of the condition does not play a very important part as regards the method employed.

Injury directly due to attempts at reduction is rare. The stripping of the serosa is undoubtedly less than in laparotomy and is not so harmful. It is difficult to determine whether in unsuccessful cases the most favorable time for operation has passed. This can only be decided by comparison of the results of a number of non-operated cases with those operated upon at once. The author feels encouraged after comparing statistics in using the non-operative method with limitations as indicated.

In the discussion, LORSEAU advocates the operative procedure with a mortality of 25 per cent. Only 4 cases were treated by manipulation, and these all had to be operated upon later. The 5 deaths were all due to intoxication. He prefers surgical treatment for the following reasons: 1. Manipulation is often unsuccessful and requires special skill and practice. 2. It is difficult to tell whether reduction is complete. 3. The injuries to the serosa are frequently extensive and require suturing. 4. The cause of the invagination cannot always be treated by external methods. 5. Faulty diagnosis is frequently detected only by laparotomy. 6. The operative procedure is controlled by sight, while the other is a blind method.

TCHERNING intends to attempt nonoperative treatment more than he has done in the past, although he is not very strongly inclined toward it. The good results of Monrad seem to him to depend in part upon the selection of suitable cases.

ROVING thinks the statistics of the good results and low mortality in non-operated cases demand consideration. Nevertheless he operates on all cases in which one attempt at reduction fails. He has had good results by following this principle in cases with 2 deaths.

ESCHER injects oil (ol. rapae) to lubricate the cedematous inner segment of the invagination. He allows as much oil as possible to flow into the bowel

from a height of 1 m. The oil is massaged through the descending colon and then the tumor is massaged. Sometimes reduction takes place with an audible snap. The method has given good results in Eschen's cases. It is usually carried out without anesthesia.

ALGER KOCK.

Collins C. N.: Two Cases of Obstruction of the Bowels from Unusual Causes. *Surg. Gynec. & Obst.* 1913 xvi 5. By Surg. Gynec. & Obst.

The interest in these two cases lies in the diagnostic problems involved. In the first case the patient had had a right inguinal hernia for ten years. It became strangulated, but after a few attempts it was reduced. The vomiting and pain were not relieved, and there was tenderness on pressure over the right lower abdomen, so a diagnosis of appendicitis was made. An operation revealed a fibrous band across the internal inguinal ring. The loop of bowel came out on one side of the band and was pushed back on the other side leaving it hanging over and obstructed by the narrow fibrous band.

In the second case the patient was 50 years old and she had not menstruated for two months. She was taken with vomiting and pain in the abdomen. She had an oblong tumor in the left lower abdomen and had passed some bloody mucus from the rectum. A rectal examination was negative. A diagnosis was made of an extra-uterine pregnancy but operation revealed an intussusception caused by a lipoma attached by a pedicle to the mucous membrane of the cecum.

Kerr H. H.: Intestinal Anastomosis; with a Report on the Aseptic Basting Stitch Method. *Surg. Gynec. & Obst.* 1913 xvi 490. By Surg. Gynec. & Obst.

Kerr presents his experience with this method since the report of the experimental work by himself and Parker in 1908. It may be defined as an easy and rapid method of suturing, applicable to any form of intestinal anastomosis whether circular lateral or end-to-side whereby the immediate formation of a patent stoma may be accomplished without operative opening of the intestinal lumen and without the introduction into it of any instrument or ligature.

Two pairs of crushing clamps are placed in apposition across the bowel at an angle of 45 degrees to its axis on either side of the portion to be resected. The bowel is divided by the cautery or knife between each pair of clamps. The proximal and distal stumps closed by the clamps are now ready to be joined. The basting stitch is a Cushing continuous stitch of Pagenstecher thread placed across each bowel end with the loops between the stitches passing over the clamps. The first and last stitches at the mesenteric and free borders run parallel to the axis of the bowel; the intervening ones run parallel to the clamp and across the axis of the bowel. When the blades of the clamp are separated and with drawn from under the loops of the basting thread

and when the latter is drawn taut, the edges of the incision are automatically inverted and held firmly pressed together in a straight line without any separation of the lips of the opening having occurred. The two ends so closed are held in apposition suspended on their tight basting threads, and the anastomosis is made with great ease and rapidly according to the author. Twenty-six cases of aseptic anastomosis, including pylorotomy and gastro-enterostomy are appended in none of which was there leakage or stenosis. The author claims that the basting-stitch method of intestinal anastomosis is rapid, simple, safe and aseptic.

Codman E. A.: Observations on a Series of Ninety Eight Consecutive Operations for Chronic Appendicitis. *Boston M. & S. J.* 1913 clix 495. By Surg. Gynec. & Obst.

Before starting this series the author wrote down ten distinct objects of the investigation. Each case operated upon had been previously diagnosed as chronic appendicitis and this diagnosis had been agreed to by the author.

Of the 98 cases only 61 appendices showed at operation evidences of ever having been inflamed. And of these 50 should not really be included because they had definite histories of classical acute attacks. Therefore he scouts the idea of anyone being able to make a diagnosis of chronic appendicitis with any reasonable degree of certainty in cases which have not had a previous acute attack. This statement is further substantiated by the fact that he and his colleagues operated on an equal number of abdominal cases under other diagnoses than chronic appendicitis and yet a chronic appendix was the only abdominal lesion they could find.

Another consecutive series of 100 laparotomies which were done for other lesions (chronic appendicitis not even being mentioned) showed 71 "chronic appendices." He considers the X ray of considerable help in the diagnosis of chronic appendicitis, especially in differentiating the condition which he calls pseudo appendicitis or ileo-caecal anomalies.

Anoci association was used on 25 cases and is considered by the author a step toward the evolution of a perfect technique. When this becomes so sure that no deaths no pain no vomiting no hernia, no complications of any kind occur then the arguments for routine appendectomy will be justified.

In conclusion he hopes for a revision of the subject of chronic appendicitis and a new nomenclature and suggests the following:

- 1 Terminal obliteration a harmless type
- 2 Structured or vicious appendix.
- 3 Klacked or potential appendix.
- 4 Chronic appendices those in which the lumen is patent but where the X ray shows retained bismuth hours or days after the rest of the meal has passed. They include the catarrhal the lymphoid and the minor kinks and twists, but their lumen is still free so that when their internal tension rises the

discharge can escape into the cæcum and only cause a slight attack of indigestion R. W. FERNER.

White G R.: Contracture of the Psoas Parvus Muscle Simulating Appendicitis *Ann Surg Phila* 1913 LVII 483

White has found seven cases simulating appendicitis, with rigidity of the right abdominal muscles localized pain excessive tenderness and palpable tumor due to a contracted psoas parvus tendon.

He strongly urges a search for the psoas parvus muscle when the abdomen is opened and a normal appendix found. A division of this tendinous band gives relief. He prefers the retroperitoneal route because the retracted peritoneum keeps the intestines out of the way but the transperitoneal route can also be resorted to easily.

The iliac artery is well to the inner side and the nerves deeper and to the outer side of the tendon so there is little danger in the operation. In all of his series of seven cases pain tenderness and tumor were present. In two the pain came suddenly and was referred to the leg. Fever and digestive disturbances were absent.

Chronic and tonic spasms of the iliopsoas have been reported in neurasthenics. In the author's series only one could be called neurasthenic. The psoas parvus is a rudimentary muscle attached above to the last dorsal and first lumbar vertebrae and below to the iliopectineal line of the pelvis. In all of the seven cases reported the psoas parvus was represented by a tense fibrous band along the inner border of the psoas magnus and receiving additional bands from each neighboring vertebra.

In all of his cases immediate relief followed the division of this tendinous band.

LEWIS B. CRAWFORD

George A. W. and Gerber I.: The Value of the Röntgen Method in the Study of Chronic Appendicitis and Inflammatory Conditions, Both Congenital and Acquired About the Cæcum and Terminal Ileum *Surg Gynec & Obst* 1913 XVI 418

This is a discussion from the roentgen point of view of a series of cases, all of which had symptoms of either stomach trouble or chronic constipation. The roentgen examination showed the cause to be definite surgical disease in the right lower quadrant and later operations confirmed the diagnoses. The cases are in five general groups.

1. *Chronic Appendicitis*. This is shown first by ileal stasis which must consist of stasis in the ileum for 24 hours or longer. More important than this is the actual demonstration of bismuth within the lumen of the linked and adherent appendix. The authors claim to have demonstrated the appendix in about seven cases out of every ten examined and to be able usually to differentiate normal from pathological appendices.

2. *Lane's Kt k*. Here ileal stasis is also found, but more important is the demonstration of the

fixed and distended terminal loop of ileum. Fluoroscopic manipulation plays a very important part in the diagnosis of this condition.

3. *Jackson's Membrane or Membranous Pericæcitis*. This is usually accompanied by ileal stasis and some obstruction in the cæcum and ascending colon. The real diagnostic feature however is the demonstration of adhesions by manipulation under the fluoroscope or what is even more important, by the presence on plates of a peculiar mechanism of filling which has been observed only with these pericæcitic adhesions. As the ileal contents empty into the cæcum and ascending colon a pull is gradually exerted upon the adhesions, and the proximal transverse colon is pulled down toward the ascending colon finally giving the double barrel shotgun effect. The presence of this filling mechanism serves to differentiate Jackson's membrane from simple colonic dilatation (typhlitis).

4. *Adhesions*. Many of the cases were found to have various adhesions of the intestinal parts as the result of pelvic inflammation or old ulcer appendicitis, gall stones etc. In these cases obstruction and ileal stasis are not as valuable diagnostic points as the actual demonstration by manipulation of the effect of the adhesions.

5. *Cæcum Mobile*. This can be demonstrated readily by the roentgen ray and incidentally the diagnosis of left sided appendicitis can be confirmed.

Quimby A. J. Differential Diagnosis of the Appendix, by Aid of Röntgen Ray *N Y M J* 9 3 XCVI 697

By Surg. Gynec. & Obst.

The author bases his paper on the results of 141 roentgenological examinations both fluoroscopic and radiographical of the lower right abdomen. A bismuth subcarbonate or barium sulphate (C. P.) meal is given and the patient is observed at intervals for at least 4 to 6 days.

He classifies appendices according to function, position and shape as follows: (1) Functionating or non functionating (2) fixed or movable (3) ascending, descending or transverse (4) straight knuckled curved looped or clubbed.

A functionating appendix is one capable of receiving and discharging feces. The author expects the appendix to be filled with bismuth any time after 6 hours, but often he observes that this does not occur until after 24 to 30 hours. Since the colonic peristaltic way originates in the appendix it can be assumed that the discharge of its contents is governed by the same rules controlling the function of the large bowel. If the bismuth is not discharged within 36 or 48 hours it can be assumed that the function is disturbed and this class furnishes the non functionating type which the author always considers pathological. In some cases bismuth has been found in the appendix several weeks after ingestion of the bismuth meal.

Palpation during fluoroscopy enables one to determine whether the appendix is fixed or movable. The author suggests the necessity of first locating

the cecum. The hand should be passed downward until the cecum slips upward under the finger, thus enabling the examiner to study the attachment of the appendix.

As a rule the ascending type is adherent and the descending free and normal. Abnormal appendices are frequently associated with abnormalities of the cecum and colon as adhesions, mesenteric bands, and angulations involving colon conditions which favor stasis.

The determination of the shape of the appendix requires a knowledge of the relative values of the diffusion of the shadow cast by the various segments. Stereoscopic studies are suggested as of value in determining the exact relations to surrounding structures. It must be kept in mind that malposition of the cecum produces unusual shaped appendices. The author's conclusions are as follows:

1. When there is chronic constipation due to delayed or inhibited peristalsis the appendix is usually diseased.

2. The X-ray is essential in the differential diagnosis of the appendix.

3. When a pathological condition of the appendix is suspected and there are few symptoms an X-ray examination is essential.

4. When the appendix is tied up in a mass of adhesions an accurate finding of the appendix enables the operator to rapidly locate it on operation.

5. Accurate determination of conditions typifying appendicitis should be made before operation.

6. When there are obscure symptoms in the abdomen which cannot be traced to a definite organ an X-ray examination of the appendix may show that it is adherent to some distant organ.

WM A EVANS

Fallon M F: An Anatomical and Surgical Study of Pericæcal Membranes. *B. M. & S. J.* 1913, cln 600. By Surg. Gynec. & Obst.

Fallon discusses Jackson's membrane, cecum mobile, the physiology of the first half of the large intestine with treatment of pathological stasis therein and the relation of pericæcal membranes to appendicitis, especially of the family type. Numerous authors are quoted and a list of references is appended.

Fallon believes with Blake that Jackson's membrane is a congenital normal constant structure. He holds that it is not a membranous pericæcolitis and that it is not disabling to the cecum and ascending colon. He does not doubt that there is a definite pericæcolitis but that it has no relation whatever to the so-called Jackson's membrane. Virchow was the first to give a clear description of this pericæcolitis and he ascribed it chiefly to fecal stasis. The chronic type of this affection is illustrated by the following case. In a married woman 43 years of age with a history of constipation and right abdominal pain a diagnosis of high appendix was made but operation showed only the right flexure of the colon and its omentum adherent to the anterior parietal perito-

neum over an area the size of the palm of an adult's hand. Adhesions were freed. The wall of the colon was much thickened and its serosa was injected and uneven. A piece of the affected tissue was excised and reported by the pathologist as chronic inflammation. Two months after leaving the hospital the patient was still free from her former symptoms.

The cecum mobile of Wilms is not in itself pathological. It is due to the presence of an ascending mesocolon, a less frequent form of attachment of the ascending colon. Treves found it in 26 per cent of his cases and Fallon has found it in 24 per cent of one hundred subjects whom he has examined. Stasis in the first half of the large intestine is to a certain extent physiological. When it becomes pathological the causes are frequently to be found in faulty habits and hygienic and dietary measures as a rule indicated.

In an investigation of the relation of pericæcal membranes to appendicitis Albrecht found in the cadavers of 15 per cent of 500 children under six years of age kinks and twists of the appendix due to these membranes sufficient to give opportunity for interference with drainage and the possibility of future appendicitis. He says there can be no doubt that such congenital anomalies are hereditary, and consequently may run in families. Fallon believes this to be true and submits the following as evidence. An investigation of 200 patients operated upon for appendicitis showed that twenty-four were members of families in which one or more members had been operated upon for appendicitis. In one family the grandmother had died of appendicitis, an uncle had had peritonitis resulting from appendicitis, five brothers and one sister of the patient had been operated upon for appendicitis between the ages of twenty and thirty and the only remaining member of the family a sister was known to have chronic appendicitis.

JONV BAYANT

Erdmann J F: The Colon: Its Malignancies. *Med. Rec.* 913, LXXXV 61.

By Surg. Gynec. & Obst.

Since the author's last report of 45 cases he has had forty more. In these the cecum was involved three times, the sigmoid eleven, rectosigmoid thirteen, rectum eight, transverse colon three, and the pericæcal tissue two. The youngest patient was 26 years old. Each case was well advanced when seen by him. He ascribes the failure of early diagnosis of these conditions to modesty on the part of the patients in speaking of the ailment and to refusal to submit to an examination. Another factor is the too readily eased conscience of the physician in not examining such patients, accepting the diagnosis of the patient or her family physician as to piles, fissures, etc. Many also overlook the importance of a detailed history.

The author then takes up the question of diagnosis in more detail. He states that the early symptomatology is so vague and indefinite that a diagnosis is rare and difficult. The earliest symptoms are

discharge can escape into the cecum and only cause a slight attack of indigestion R. W. FARVER.

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LEWIS B CRAWFORD

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appears to benefit rather than injure dogs suffering with acute pancreatitis.

Dogs with acute hemorrhagic pancreatitis which are subjected to exploration and removal of peritoneal exudate will appear sicker than control dogs left undisturbed.

The pancreas can survive remarkable degrees of injury and this factor of safety should always be considered in drawing deductions from any surgical procedure. Its capacity for repair seems greatest when it is left undisturbed in a closed abdomen.

Stevenson E. S.: Splenomegaly *Brit M J* 1913
ii 847 By Surg. Gynec. & Obst.

The author believes that Banti's disease with its enlarged spleen and anemia is the last phase of splenic anemia. Rolleston has summarized the symptoms as follows: Anæmia of the type usually

spoken of as chlorotic, namely, a diminution of red corpuscles with a diminished hæmoglobin content, absence of leucocytosis usually leukopenia, considerable splenic enlargement which cannot be correlated with any other known causes such as leukemia, tuberculosis, malaria, syphilis and hepatic cirrhosis, the long duration of the disease and the tendency to gastro-intestinal hæmorrhages. The author says that when the spleen is removed in splenomegaly the blood almost immediately improves in quality. This fact makes it appear that the origin of the disease is in the spleen, probably some toxin which destroys or injures the blood cells. Stevenson reports a splenectomy in a girl aged 22 whose red count was 1,500,000 per cmm., whites 4,568, hæmoglobin 83 per cent. Twelve days after operation red corpuscles were 4,400,000, whites 11,200, hæmoglobin 83 per cent.

SURGERY OF THE EXTREMITIES

DISEASES OF THE BONES, JOINTS, MUSCLES, TENDONS, CONDITIONS COMMONLY FOUND IN THE EXTREMITIES

Cokenower J. W.: Joint Disease Due to Infection from Other Parts of the Body *J Am. M. Assn.*, 1913, lxi 1430 By Surg. Gynec. & Obst.

We must not forget that omitting trauma, arthritis is only a symptom of a disease whose source is in some distant part of the body. The presence of a urethritis or a suppurating antrum may be the only differentiating point between two apparently identical joint conditions. For etiology of chronic joint lesions in children one should look for tuberculosis, sepsis, rachitis, congenital syphilis; in young adults special septic infections from the intestinal or genito-urinary tract; in late adult life chronic septic infection of the mucous tracts in nearly all parts of the body. Sources of infection which the author has compiled from reports of eminent surgeons are in order of their importance: tonsils, teeth, genito-urinary tract.

W. A. CLARK.

Jacobs C. M.: Conservative Treatment of Tuberculous Joint Disease *Iowa M. J.*, 1913, ix, 89 By Surg. Gynec. & Obst.

The first treatment of tuberculous joint disease in children should be conservative. This implies efficient protective treatment by some form of orthopedic appliance. Operative procedure should be considered only an adjuvant measure and not the primary method of treatment. General hygienic methods as well as good nourishment are no less important in joint tuberculosis than in lung tuberculosis.

The mechanical treatment is then discussed, as well as the use of bismuth paste and tuberculin. The writer considers that bismuth paste has no

intrinsic value. Clear vaseline injected into a sinus exerts the same influence as bismuth. The action is mechanical for by plugging up the sinus it dams back the pus, excludes the air and prevents entrance of pyogenic bacteria—all of which are favorable factors for the filling in of the sinus with granulations. His experience at the Home for Destitute Crippled Children has shown that the greatest success with bismuth paste has been in old sinuses from tuberculous joint disease which have been discharging for one or more years. They could be cured in seven days to two months, but new channels would form as an outlet for the tuberculous debris coming from the seat of disease.

The use of tuberculin has shown little promise in the hands of orthopedic surgeons. It is no longer administered in the author's practice.

In conclusion the author emphasizes the fact that the natural evolution of tuberculous joint disease is toward recovery but with deformity and ankylosis. Nature can be assisted to effect a cure without deformity and with the minimum loss of function by early recognition of the disease together with conservative treatment, and long-continued observation.

Ely L. W.: The Injection Treatment of Tuberculous Joints *J Am. M. Assn.* 1913, lxi, 1433 By Surg. Gynec. & Obst.

Mikulicz in 1881 was probably the first to treat tuberculous joints by injections. He used iodoform and this is the substance that has since been advocated most strongly and persistently. Fraenkel in 1900 showed that iodoform was not antiseptic when so used, found that bone charcoal and other inert powders were just as good and promoted healing by mechanical irritation. After 32 years' trial and subjection to contradictory clinical experience, iodoform is not widely used in this country. It is as in-

rational to attempt to cure a tuberculous joint by injection of the synovial cavity as to cure a tuberculous lung by injection of the pleural cavity

W A CLARK

Orr H W Results Obtained in the Non-Surgical Treatment of Tuberculosis of the Joints *J Am Med Ass* 1913 10 1390
By Surg. Gynec. & Obst.

In a study of fifty cases the author found that the active process of joint tuberculosis was prolonged twice as long on an average in the cases operated upon as in the non-operative cases also that the amount of the deformity was greater by about fifty per cent in the operative cases. The excuse of time saving is thus proved to be a fallacy, for the patients are disabled longer either primarily by the operation or secondarily by mixed infection. Among the operative cases of this series there were three deaths, while there were none among the non-operative cases. The conclusions are that the best results are obtained by conservative treatment and that disability and deformity are much less in patients so treated.

W A CLARK

Middleton W J Some Notes on Arthritis Deformans with an Analysis of Fifty Cases Treated by Means of Continuous Counter Irritation *Med Press & Circ* 1913 20 425

The author considers continuous counter irritation the panacea for arthritis deformans. The principal methods for carrying this out are:

- 1 The blister followed by savin ointment
- 2 Acupuncture with counter irritant drugs such as cantharides, croton oil, methyl salicylate oil of mustard etc
- 3 The actual cautery — preferably the galvanocautery

The first two are the most efficacious because of the exudation which takes place. Applications are made in the neighborhood of the spinal column.

So efficacious is this treatment that patients with few exceptions who have been treated for years by such means as natural spa waters, baths of many kinds, massage, exercises, ionization, residence in Egypt, etc without lasting benefit, have improved. Often but one or two blisters have produced great improvement.

CHARLES M J COSS

Fuller E. The Cure Through Genito-Urinary Surgery of Arthritic Deformans and Allied Varieties of Chronic Rheumatism *Med Rec* 1913 10 691
By Surg. Gynec. & Obst.

Fuller reports upon a total of 346 cases operated upon by seminal vesiculotomy in which he had but one death occurring in his last series of 65 cases, due to interstitial nephritis. In more recent observations upon the bacteriology of the material obtained from the seminal vesicles at operation, Larkin, the pathologist has not discovered the gonococcus in chronic conditions but uniformly the streptococcus.

The complement fixation test in the acute forms

of the affection was usually positive and often times in cases showing a marked tendency to chronicity the test would be positive a year or two after the time that gonorrheal infection had occurred according to the clinical history. In one case a weakly positive test was found five years after the stated occurrence of the infection. In the most chronic cases however where there is evidence that they had been no recurrence of the gonorrheal infection, seminal vesiculitis persisting as a resulting lesion, the fixation test was found to be negative.

The streptococcus could always be counted upon as existing in such cases. The prognosis as regards the cure of absorptive rheumatism through seminal vesiculotomy is decidedly good.

The point in technique in the operation Fuller mentions, is not to allow premature external closure of the wound, but to maintain drainage tubes in position until the deep portion of the wound has thoroughly granulated and healed. Another essential surgical point lies in the thorough and free opening throughout the entire length of the affected seminal vesicles.

Martin, I A M: Discussion on the Diagnosis and Treatment of Injuries of the Knee-Joint, Other Than Fractures and Dislocations. *Bull. M J* 1913 10 1070
By Surg. Gynec. & Obst.

The author emphasizes the point that the knee joint is not merely a hinge joint. At the end of extension a certain amount of rotation of the femur takes place on the tibia for the inner condyle's articular surface is longer by one-third than the corresponding surface on the external condyle. Therefore the last one third of the act of extension is really a screwing inwards of the femur on the tibia. In the position of completed extension there is no lateral motion at the knee-joint. However in the varying degrees of flexion varying degrees of lateral motion are allowed. It is the author's belief that for this reason it is only in flexion that tearing or splitting of the semilunar occurs. This belief is based upon personal experience with 449 operated cases. For rupture of the ligamentum patellae the author advises suture followed by rest in the fully extended position for eight weeks. Full flexion is not permitted for another two months. For rupture of the ligaments where forcible hyperextension has been the cause he recommends splinting in the slightly flexed position for twelve or more weeks, followed by massage and exercise. Where the internal lateral, external lateral or anterior ligaments are torn, he thinks the best treatment is suture.

Rupture of the crucials does not readily yield to operative treatment and these patients are best treated by a properly fitting knee brace. Martin removes loose bodies without general anesthesia. He first fixes the body with a needle and then under local anesthesia and strict asepsis makes a small incision into the joint and removes the body. In a large number of cases of injury to the semilunar cartilages, a definite splitting or tearing occurs. Out

of a total of 509 cases operated upon by Martin only 38 were external. He explains this on anatomical grounds saying that the external cartilage has a much looser attachment than the internal. Consequently, supposing it becomes engaged between the external condyle and the uppersurface of the external tuberosity of the tibia and is then dropped toward the center of the joint stretching of its connections rather than splitting of its own substance occurs. In the case of the internal semilunar which has a close connection with the internal lateral ligament and the capsule a tear would be more likely to occur.

A definite fracture of the cartilage may be caused by sudden extension of the knee while the loose semilunar cartilage is held between the joint surfaces. Martin says the treatment of torn semilunar cartilages depends largely upon the social position of the patient. A cast from toes to upper thigh may be tried. He prefers to operate seven to ten days after an attack. He uses chemical sterilization rather than dry. A tourniquet is used the knee being thoroughly flexed. A transverse incision is made running (in the case of the internal cartilage) from the inner border of the ligamentum patellæ backward along the line of the joint for two inches. Care is taken not to cut the internal lateral ligament. He aims to remove the entire cartilage. He uses no splint as an after dressing and encourages the patient to move the knee. No fingers are allowed to enter the wound at any time during the operation, even though he and his assistants wear rubber gloves. Ten days later his patients usually walk without any support.

Walton maintains that injuries of the semilunar cartilage are brought about by hyperextension of the knee and not by a rotatory movement while the knee is in semiflexion. Out of 77 cases in his hands 73 were of the internal cartilage.

FRACTURES AND DISLOCATIONS

Heineke H. Spontaneous Rupture of the Extensor Longus Pollicis Tendon After Typical Fractures of the Radius—the So-Called Drummer's Paralysis (Über Spontanrupturen der Sehne des Extensor pollicis longus nach typischen Radiusbrüchen und über die sog. Trommellehmung). *Deut. u. Zisch. f. Herneheilk.* 913 14, Festschr. Strumpell 9.

By Zentralbl. f. d. ges. Chir. : Grenzgeb.

The so called drummer's paralysis according to Heineke depends on the spontaneous rupture of the extensor longus pollicis tendon. The rupture is quite accidental and follows a weakening of the tendon by necrotic inflammatory changes due to repeated traumatism. But even after severe single injury spontaneous rupture of the tendon in question can take place. The author has seen two such cases in which four and eight weeks after perfect union of typical radius fractures the tendon broke after the function of the hand was almost normal and the patients had resumed their regular occupations. It is assumed that in these cases the healthy

tendon was injured at the time of the fracture and that a circumscribed portion gradually died and later the tear occurred at the necrotic portion. The tendon could not have been injured by the bony fragments as in neither case was there any displacement. It is probable that at the time of the fall the thumb was forcibly bent backwards and abducted so that the tendon was injured where it passes beneath the annular ligament of the wrist. Heineke successfully united the tendon in one of the cases by freshening the torn ends. The other case refused operation. Nevertheless the author recommends suturing the peripheral end of the tendon either to the extensor tendon of the index finger or to the tendon of the extensor carpi radialis longior. *Jama.*

Roth, O.: Fracture of the Neck of the Femur and the Isolated Fractures of the Trochanter—Major and Minor (Der Schenkelhalsbruch und die isolierten Brüche des Trochanter Major und Minor). *Ergebn. d. Chir. u. Orthop.* 1913 VI, 209.
By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The author does not approve of the usual division of fractures of the neck of the femur into intra- and extracapsular fractures. He follows Kocher's classification in which the following are recognized: (1) Fractura subcapitalis which fracture extends to the head. (2) Fractura colli femoris intertrochanterica, the fracture which lies directly above the mass of the trochanter. (3) Fractura pertrochanterica the line of fracture running obliquely through the trochanters. (4) The combined fracture which occurs when the neck becomes impacted in the trochanter in a fracture intertrochanterica. Fracture of the neck of the femur occurs chiefly in old age and is more frequent in the female sex. Its frequent occurrence is due to osteoporosis which is brought on by old age. Osteoporosis also affects Adam's curve whereby the angle made by the head and neck of the femur which usually is under 127 degrees, approaches more and more a right angle. With such great leverage the effect of direct violence is greater. The roentgen era has shown that this fracture is not such a rare occurrence in youthful individuals. In 1903 Hoffa collected 87 cases. Usually these were cases of separation of the epiphysis from the head. According to Kocher growth along the epiphyseal lines produces a diminished resistance.

Fractura subcapitalis is produced by a fall on the trochanter the head which is held firmly by the lig. Bertin being pressed against the acetabulum or it may be caused by outward rotation of the leg. Fractura intertrochanterica is also produced by a laterally active force with the leg in the adducted position. It is an extension fracture due to a fall backward. In the combined fracture the pointed Adam's curve wedges against the trochanteric mass and splits this asunder. The diagnosis is based outside of the roentgen picture on shortening outward rotation pain on pressure or jarring and limited excursion of the tro-

chanter All these symptoms may be present depending on the form and impaction of the fracture. Sometimes inflections occur in children which later produce pain and deformity. At times a second trauma converts an incomplete into a complete fracture. The prognosis is not favorable as regards life and function. Disagreeable complications such as pulmonary affections, urinary disturbances and circulatory disorders which may vitiate the result are not rarely observed. The functional result is to be attributed to the extremely slight tendency to healing in fractures of the neck and also to faulty positions. Usually there is only fibrous union, which fortunately suffices for ordinary purposes. Impacted fractures, especially the intertrochanteric, heal best. In subcapital fractures a disappearance of the neck is often observed. Subcapital fractures heal with the greatest difficulty because of poor nutrition. On the other hand fractures in the trochanter region heal smoothly if somewhat slowly. Impacted fractures give the best results. The treatment depends on the constitution of the patient.

If hypostatic pneumonia is feared the patients should be taken out of bed as soon as possible. These patients are, as a rule doomed to use a crutch or cane for their remaining days. In most cases Bardenheuer's extension gives the best results. The leg is placed in an abducted position, with inward rotation applied below the knee. Active movements of the upper extremities are used in elderly people to strengthen the heart. Impacted fractures are partially loosened under narcosis to overcome the longitudinal displacement and outward rotation is used. Strong abduction, as emphasized especially by Lorenz is of importance. If it is desired to get patients out of bed early they may be permitted to walk with suitable walking bandages (Kocher Schanz Bender). Open operations have been recommended for the purpose of better adaptation of the fragments. Nails ivory pegs and screws have been driven into the trochanter (Lang enbeck, Franz König Trendelenburg Kocher) and bone suture has also been tried. Of further importance is the treatment of non impacted subcapital fractures. Here Kocher advises resection of the head if the diagnosis is certain, while Fritz König sutures the fragments with aluminium-bronze wire through a Hueter incision.

The majority of physicians evidently try extension first and if this fails decide to remove the head. Others try a replacement by open operation (R. Whitmann). Fracture of the greater trochanter is brought about by a fall on the hip the fragment may be pulled upward by the muscles a distance of 6 cm. The injured leg is in the position of adduction and inward rotation. The treatment consists of extension with strong abduction and outward rotation of the leg. Fracture of the lesser trochanter is more rare. It is produced by a powerful pull of the psoas. The diagnosis is founded on the presence of an extravasation in the region of the lesser trochan-

ter outward rotation of the leg and on Ludloff's symptom i.e. the patient cannot raise his leg while sitting but on lying down can raise it without restriction. These fractures all heal in the dislocated position but leave no disturbed function. Treatment is of no consequence as regards healing, stretching of the leg with outward rotation with the thigh slightly bent being probably the most useful treatment. Vossmer.

SURGERY OF THE BONES, JOINTS, ETC.

Rovsing T: A Case of Transplantation of Bone from One Patient to Another (Homoplastic) to Supply the Lower End of the Femur (Über einen Fall von freier Transplantation eines Knochens von einem Menschen zum andern (Homoplastik) als Ersatz der unteren Oberschenkelhälfte) *Rep. Tid., Kjøbenhavn*, 1913, liv, 245.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Rovsing removed the internal condyle of the femur for sarcoma and failed in an attempt to replace it by implantation of a piece of dead bone. Eleven weeks later he did a homoplastic operation the corresponding portion of the femur of a recently amputated thigh being used to repair the defect. The operation was successful, the new bone implanted twenty minutes after the amputation forming a perfect union. The patient a year after operation shows no recurrence and is able to attend to his regular work. Pinner.

Seidel: Operation for Habitual Luxation of the Shoulder-Joint (Über die Operation der habituellen Schulterluxation) *Zentralbl. f. Chir.* 1913, 2, 1344.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

As ordinary capsular replacement is not always effective Clairmont and Ehrlich tried fixation of the capsule by means of a muscle and fascia flap from the deltoid brought over the capsule and as even after this procedure there were recurrences Seidel tried free fascia transplantation—Ollier's incision. His method consisted in the separation of the subscapularis muscle a few centimeters in front of its attachment to the lesser tuberosity resection of an oval piece of capsule suture free transplantation of a flap of fascia from the sheath of the rectus covering the entire joint intertwinning of the lateral end of the fascia with the deltoid and suture of the subscapularis muscle. In this way tension of the capsule is caused by raising the arm. A post mortem preparation from an epileptic case showed microscopically the complete preservation of the transplanted flap.

MAYERBACH

Lorenz, A: Bloodless Operation for Pseudarthrosis of the Neck of the Femur (Über die blutlose operative Behandlung der Pseudarthrosis collis femoris) *Ztschr. f. orthop. Chir.* 1913, xxiii, 409.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Lorenz describes the different operations and is opposed to any radical operative procedure par-

ticularly Borchardt's. He considers only median fractures just below the head. Peripheral and intertrochanteric fractures almost always result in bony union. The nearer the median line the fracture is the less chance there is of bony union because exact apposition cannot be obtained. We cannot judge of the time taken for recovery by that of a fracture of the diaphysis and no attempt should be made to bear the weight of the body for from six to eight weeks. Too much demand should not be made on the neck of the femur. This is avoided by fixing the leg in extreme abduction and complete extension with the greatest possible degree of inward rotation. The leg should not be used for a year after the accident. Lorenz says imperfect coaptation of the fragments is the chief cause of pseudarthrosis, but that even if bony union cannot always be attained the functional capacity can at least be improved and the pain lessened.

The poor function of the diseased leg is due to (1) Insufficient capacity of the neck of the femur to bear weight (2) atrophy and (3) contracture. Flexion and adduction are important agents in producing these conditions. Borchardt does not believe in extra-articular osteotomy in fractures of the neck which are likely to heal in a poor position, but Lorenz prefers it because it is not dangerous and because the real cause of the functional trouble does not lie in the badly healed fracture itself but in the changed position of the femur. Lorenz claims that clinical examination gives a much more reliable diagnosis than roentgen ray photographs and gives a detailed account of the diagnostic signs.

Treatment of pseudarthrosis has two objects, i.e. bony union, which cannot always be attained, and overcorrection of the typical malposition caused by contracture which can always be attained. The author describes four cases. SCHLENDER.

ORTHOPEDICS IN GENERAL

Bamberg K. and Huidachinsky K.: Congenital Fragility of the Bones (Über angeborene Knochenbrüchigkeit). *Jahrb. f. Kinderh.* 1913 LXVIII 214
By Zentralbl. f. d. ges. Chir. f. Grenzgeb.

From their own experience and literary research the authors have come to the following conclusions. Osteogenesis imperfecta (Vrolik) and osteopetrosis idiopathica (Lobstein) show the same clinical picture, the most important symptom of which, namely brittleness of the bones, is caused by an intra uterine predisposition to defective bone formation. Fifty per cent of the cases of osteopetrosis are hereditary. The early form called osteogenesis imperfecta shows fractures occurring during intra-uterine life or in labor and has a bad prognosis on account of injuries to the lungs caused by multiple fractures of the ribs. Of 31 cases collected from literature only three survived. Most cases were stillborn or premature deliveries in which crepitation of the skeleton and old and recent fractures with usually abundant callus formation were found. The skull

represents a sac which adapts its form to the underlying structures and the degree of its ossification seems to be closely related to the vitality of the child. Heredity plays no part. Pathological anatomy shows aplasia of the compact tissue and the spongy substance of the diaphysis and epiphysis with normal growth of cartilage, resulting in slender bones with weak compact tissue and almost no spongy substance which is shown in radiograms. Disturbed function or defective formation of the periosteum may be looked upon as the cause. The simultaneous presence of cellular and fibrous marrow in one of the cases carefully examined microscopically by the authors refutes Recklinghausen's theory of a myeloplastic malacia.

The folds and kinks of the epiphyseal cartilage also described by Looser are partly the outcome of disproportions between the normal breadth of the epiphysis and the decreased diameter of the shaft and partly caused by fractures of the compact substance. The late form of the disease shows the same pathological anatomical changes as described in the early form but can be recognized with certainty only by metabolism experiments which show permanent positive calcium balance. The disease of the bones is not caused by loss of calcium but by incomplete rudimentary formation of the bones with irregular distribution of calcium. In the second case reported by the authors experiments in metabolism showed retention of calcium which could be increased three or fourfold by the administration of phosphorized cod liver oil. All affections which show permanent negative calcium balance do not belong to the class of so-called congenital fragility of the bones. The prognosis of the late form is better because the fractures occur after birth and in 105 cases there was no death. The fragility is noticed first either from the ninth month to the second year of age during the first efforts to stand up or from the sixth to the fourteenth year of age during physical exertion. The fractures alone cause shortening and deformities of the bones. In the early form the fractures are exclusively transverse in the late form there are also oblique fractures. In the first form we see quick healing with copious callus formation in the late one the healing is often slow and the callus formation poor. Differentiation of the two diseases is not possible either by roentgenologic or histologic examination. SIEVRA.

Erving W. G.: The Treatment of the Results of Anterior Poliomyelitis. *J. M. Sem. Month.* 9 3 25 341
By Surg. Gynec. & Obst.

Erving gives a brief history of the disease from the first systematic study of it by Henle in 1840 to the work of Flexner, Lewis, Noguchi and Rosenau in isolating the causative micro-organism and demonstrating its spread by the stable fly.

In the acute stage the mortality is often as high as 20 per cent but the resulting paralysis is of the greatest interest. Treatment during the first year consists of electricity applied either to the spine

directly or to the affected muscles, but less is expected of it than formerly. Massage active and passive hyperæmia, and active or better passive muscle exercise are of much greater value. Deformity is to be prevented by splints or plaster or even tenotomy and manipulation followed by retentive apparatus to prevent stretching of weak muscles.

During the third stage after all natural improvement has occurred the resulting deformities must be treated by suitable operations, and then attention must be directed to restoring function by tendon transplantation and inserts osteotomies or arthrodeses. He believes that tenotomies done early by preventing undue stretching of weakened muscles, often prevent deformity and make subsequent operations for restoration of function less severe. Flail joints are best immobilized by arthrodesis after ten years of age, but great care must be taken to avoid injury to epiphyses. Nerve transfer has not been useful except in cases of muscles having the same nerve supply.

Of all methods he believes tendon transfer with proper use of silk extensions and ligaments has proved most satisfactory in well selected cases while in cases not admitting of operation well fitting apparatus and attention to muscle exercise and training will often do much good. C. E. WELLS.

MILLS E. P.: A Case of Tendon Transplantation to Overcome Defect Resulting from Poliomyelitis. *A Eng M Gaz* 1913 April 339.
By Surg. Gynec. & Obst.

To the literature is added a report of a successful tendon transplantation in a child for paralysis of the shoulder due to acute poliomyelitis occurring four years previously.

An incision was made beginning on the neck and extending down over the point of the shoulder to just below the greater tuberosity of the humerus. The skin was well retracted. Search for the delto-d failed to bring to light any fibers of this muscle. The aponeurosis, however, was present. The tendinous attachment of the superior fibers of the trapezius muscle was then severed from the outer third of the posterior border of the clavicle and the insertion of the middle fibers severed from their attachment to the inner margin of the acromion process and to the adjacent surface of the crest of the spine of the scapula. These attachments were gathered together and were stitched to the lowest possible point on the capsule with the arm elevated to an angle of 120 degrees. The aponeurosis of the deltoid was then whipped over these fibers and the skin closed.

The result shows that the patient can now lift and hold out her arm to nearly a right angle.

CHARLES M. JACOBS

Fassett F. J.: The Operative Treatment of Paralysis in Children. *Northeast Med.*, 1913, 1: 137.
By Surg. Gynec. & Obst.

The author notes the predominance of the flaccid spinal type of paralysis following the epidemic of 1908, 1909, and 1910.

In 200 cases under his observation, not less than three years old, thirty five have been operated upon, the remainder being given mechanical treatment. Spontaneous recovery occurred. Indications for operation are to correct deformity to prevent further deformity and to secure stability. The author emphasizes the importance of sustaining position after operation and the use of only those muscles which may be spared to advantage in tendon transplantation.

Fassett describes the operation of partial arthrodesis for simple foot-drop. The posterior articular surface of the astragalus being used only in the position of toe-drop he abolishes this quarter and prevents deformity. The operation divides the heel-cord and raises the posterior ligaments until the base attaches to the tibia. The synovial membrane and cartilages are removed from the posterior quarter of the articular surface of the astragalus and the flap of ligament sewed on to an attachment along the anterior edge of the denuded area. The heel-cord is then sutured the wound is closed and casts are applied for a month.

In cerebral plastic cases he prefers plastic tendon lengthening and operates only on those in whom mental capacity warrants it. H. W. MERRITT.

Lord J. P.: The Whitman Operation for Talipes Calcaneus Paralyticus. *J Am M Ass* 1913, 1: 1374.
By Surg. Gynec. & Obst.

The author gives in detail the technique of the Whitman operation and summarizes it as follows:

- 1 The removal of the astragalus
- 2 The freeing of the malleoli and the preparation of a new articulation
- 3 The transplantation or resuture of the peroneal tendons.
- 4 Backward displacement of the foot.
- 5 The fixation of the foot in equus.

It is a radical operation and is indicated in extreme cases of paralytic deformity of the foot for the establishment of stability. Feet on which it is performed do not wobble or roll nor tend to do so. From his experience of twenty cases the author concludes that the operation has a wider range than for calcaneus alone and should become more popular among surgeons. The frequent failure of tendon transplantations, silk implants etc. due to weakened and overstretched muscles justifies the adoption of astragalectomy in extreme cases. C. W. CLARK.

SURGERY OF THE SPINAL COLUMN AND CORD

Tscherniak M: Acute Suppurative Osteomyelitis of the Spine (Zur Kenntnis der akuten eitrigen Osteomyelitis der Wirbelsäule) Dissertation Königsberg 1913

By Zentralblatt des Chir u i Grenzgeb

The total number of reported cases is 65. The author reports a case of osteomyelitis of the spine in a 9-year-old girl operated on by Lexer. In the course of the disease paraplegia suddenly developed with total anesthesia from the lower border of the ribs down. Incision was made from the ninth to the twelfth dorsal spines. To the left of the ninth dorsal vertebra there was a pocket of pus. The spinous processes above this were removed till the upper end of the cavity was reached. The dura was not opened. A drain was placed in the canal between the bony wall and the dura. The wound was tamponed with sterile gauze. The motor paralysis improved markedly and sensation was fully restored. A metastatic abscess developed in the left knee. Two months later the child died after profuse bleeding from the arms and vagina.

Any part of the spine may be affected though it is usually the lumbar region. If one vertebra is affected the condition may exist only in one of its processes. In most cases the vertebral arch with its processes is the seat of the disease while in tuberculosis the body is usually affected. Frequently there is a history of trauma. The point of origin is often hard to find. Abscess, furuncle or whitlow may be the primary infection. Bacteriologically staphylococcus pyogenes aureus is most frequently found. The location of the focus in the spine determines which way the pus will burrow and thus may bring about serious complications. Rupture into the spinal canal is the most serious accident on account of the injury to the spinal cord from pressure of the pus or extension of the inflammatory process in the form of a myelitis. Usually the disease begins suddenly with severe symptoms, so that the patient may be semi-conscious from the onset and a diagnosis is difficult for a few days. Later the pain along the spine directs attention to that region. The prognosis should always be guarded on account of the frequency of metastases. Formerly the mortality was 88 per cent but now it is 41.5 per cent. In spite of operation lymphocyst fistula paralysis or paresis may develop. Treatment must be operative. Wiseneger's serum treatment had no effect. To prevent lymphocyst all methods of treatment for spondylitis should be adopted extrusion etc.

CONSCIENCE

Calvé J and Lelèvre H: Radiography of the Vertebral Column in Profile in Pott's Disease. *Am J Orth Surg* 1913; 1: 193.

By Surg Gynec & Obst

The authors recommend lateral roentgenograms in Pott's disease of the spine as being of value firstly

in determining very early changes secondly showing accurately the extent of the lesion thirdly indicating the most useful orthopedic procedure to be employed in the treatment and lastly ascertaining when a cure has been obtained.

Clearly marked thinning of the intervertebral disc affected is the most constant early finding and occurs simultaneously with such presumptive clinical evidence as localized contracture and slight difficulty in gait. Destruction of bone and consequent kyphosis occur later and the degree and extent of involvement can be clearly demonstrated by the profile roentgenologic examination.

This likewise reveals how the deformity is produced and the data thus obtained are of value in determining the proper treatment for its correction.

Examination of the normal spine during strong flexion or extension indicates an axis, called the neutral point by the authors, which sustains the maximum pressure in all the principal movements of the spine. In Pott's disease the portion in front of this point and which is the usual seat of origin of the lesion being subjected to greater pressure under goes compressive ulceration. As a result of this the body of the vertebra gradually becomes conical in shape and kyphosis results. In treatment the aim should be to take the pressure off at this anterior portion by inducing a lordosis and thus to prevent deformity. If kyphosis be present when treatment is begun the induced lordosis exerts a second beneficial result in that it shifts the greater pressure posterior to the neutral point and causes a compressive ulceration of that portion. This tends to change the shape of the body of the affected vertebra from conical to rectangular and bring the spinous processes together and thus lessen the deformity. A compensatory lordosis immediately above and below the affected part assists correction by causing extension of the intervertebral disc anterior to the neutral point and compression posterior to that point.

The extent of the lesion as shown by the lateral roentgenogram directly affects the prognosis as to the ultimate outcome and also duration of time necessary to effect a cure. No changes pointing to cicatrization are visible before two or three years and the time necessary for osseous consolidation, which is the last stage of repair, may be considerably longer. Other compensatory changes may likewise be observed by means of the roentgen ray and serve as a record of the progress made.

ADOLPH HARTING.

Turner W G: The Treatment of Tubercular Spondylitis or Pott's Disease. *Can Med Ass J* 1913; 85.

By Surg Gynec & Obst

The main subject of this paper is the radical treatment of Pott's disease—considering particularly Albee's operation. In three instances unexpected

tuberculous tissue, with cold abscess formation was accidentally cut into in the region of the spinous processes but, this contingency notwithstanding the grafts were inserted and primary union resulted in each case.

In four cases skiagraphs were taken ten days

to two weeks after operation showing only as imperceptible shadow of the graft.

In three cases flexibility of the spine was apparent four months after operation, and yet improvement, local and general was marked in all cases.

CHARLES M. JACOBS.

DISEASES AND SURGERY OF THE SKIN FASCIA APPENDAGES

Valentin B: Experiments on Homoplastic Fascia Transplantation (Experimentelle Untersuchungen zur homoplastischen Fascientransplantation). *Beit. z. H. u. Chir.*, 1913 lxxv, 574.

By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

After briefly reviewing the present status of homoplastic tissue transplantation Valentin has made a histological study of this process in simple fascial tissue, regarding it as the basis of all progress in this direction. The field of application for free mostly autoplastic fascia transplantation is to-day already so large that the question of using the same material homoplastically becomes of especial interest. In a series of experiments on dogs, a piece of fascia lata was removed from a dog and either immediately implanted in a gap in the peritoneum of another dog with silk sutures or first placed in a physiological salt solution at body temperature for ten to fifteen minutes, while the site of implantation was being prepared. The abdominal cavity was

used because the nutrition is more rapidly restored and functional stimuli returned more rapidly by partial removal of the abdominal wall (muscle-resection) on account of the necessary resistance against the natural abdominal pressure. In various experiments conducted at intervals of 4 to 195 days, the fascia had mostly healed without being replaced by scar or connective tissue. In the first few days a marked edematous swelling of the whole fascia, with leucocytic infiltration takes place. The characteristic spindle-shaped nuclei retain their staining power as the sign of life, and the elastic fibres are also preserved. After 24 days scarcely any difference from normal fascia is to be recognized. The question of relationship in the animal plays no rôle in the healing. The healing process in homotransplantation is more intensive than in autotransplantation the time element being increased (about 100 days as compared to 26 days).

DRAWITZ

MISCELLANEOUS

CLINICAL ENTITIES—TUMORS, ULCERS ABSCESSES, ETC.

Strauch F W: Experimental Transmission of Tumor Cells (Experimentelle Übertragung von Geschwülstzellen). *Beit. H. u. Chir.* 913, 1425.

By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

The researches of Apollant, Henke, and Lewin demonstrated that there was no essential difference between human cancer and that of mice. Strauch was able to transplant tumors from one animal to another whether of the same or different species. The material with which he began was the carcinoma of a mouse which had passed through 26 animals. The injection of the undiluted cancer-juice was always made in the axillary space. The constituents of the food given the animals seemed to have some influence on the development of the tumor. The best material is obtained from tumors about four weeks old which have developed rapidly but do not show extensive necrosis. The spontaneous tumors in mice occur only in the females and seldom produce metastases. In the transplanted varieties metastases occur readily along the blood stream. The cachectic tendencies manifest themselves in marked blood changes and amyloid degeneration of the abdominal lymph glands.

The transplantation of cancer of mice into rabbit was done as follows. A 25 per cent emulsion of cancer juice from tumors averaging 6 weeks old was inoculated under the skin of the back, with 50 per cent positive result. Cachexia usually developed a few days after inoculation. Transplants from these tumors were inoculated successfully in 100 per cent of cases, into other rabbits and these showed very rapid and vigorous development.

The transplantation of these rabbit cancers back into mice was never successful. The morphology of the tumors from these two animals was quite different but those from the same species were alike. In 13 cases experimented on metastases were found in only 1 and that a small nodule in the femur of the groin. A local recurrence appeared in the same area. On two occasions suspicious nodules were seen in the liver. The vaccination tumors are hard to classify histologically.

KRUTZ.

Carr W P: A Study of the Cancer Situation. *Surg. Gynec. & O.* 1913 xvi, 490.

By Surg. Gynec. & Obst.

Carr reviews the known facts bearing upon the pathology and etiology of cancer. He finds that carcinoma is essentially a wild growth of epithelial

cells and that, while in some instances these cells may be embryonic inclusions they are in most cases probably normal epithelium that has undergone a sudden change. In either case the cells which have been lying dormant or acting in a normal manner for years, suddenly begin to grow wild.

When we are able to state definitely the cause of the wild proliferation we shall have solved the problem. In the light of our present knowledge but three explanations seem possible: (1) Lack of nerve control that normally regulates the activities of every living epithelial cell (2) intoxications of the cells either by germ infection or by absorption of poisons from the alimentary canal (3) altered food supply to the cells. After carefully considering these possible causes he concludes that most carcinomas are due primarily to alteration or destruction of the normal influence from the central nervous system on the epithelial cells of the body and that the exciting cause is local injury or prolonged irritation. He thinks the exhaustion of the central nerve cells an important predisposing cause whether the exciting cause be simple trauma or infection with a cancer germ and that if this predisposing cause could be prevented few cases of carcinoma would occur either from prolonged irritation or from germ inoculation.

He recognizes a precancerous condition: the result of civilized modes of living in which there is exhaustion of the granular matter of the brain cells, shriveling of the nuclei and complete destruction of some cells, occurring while the somatic nutrition is still good and the epithelial cells active i.e. a premature aging of the central nervous system while the epithelial cells are comparatively young. This explains the immunity of savages to cancer and its increasing prevalence among the civilized particularly in middle life. He believes this precancerous state is caused by nervous worry and auto-intoxication and that it can be recognized and prevented if patients can be made to live as they should. This is the best hope for checking the increase of cancer.

DeKeating Hart: Researches on the Pathogenesis of Cancer *Proctitioner* Lond 1913, 30 443
By Surg Gynec & Obst.

The author gives an outline of the most important theories of the cause of cancer and goes into a rather full discussion of each theory pro and con.

The parasitic theory has been advanced by several authors but has few supporters. No microbe has positively produced any neoplasms in controlled and repeated experiments. Since material proof is wanting as to the exact cause of cancer analogy on the general principles of natural laws, must serve to support any pathogenic hypothesis of cancer. The essential differences between infections and cancer are the following: (1) Cancer requires the complete cell for transplantation while microbial infection requires only the specific germ (2) cancerous cells live on active while infected cells have slight grafting power.

The cellular theory is supported by many known facts of cellular animal life. Both normal and cancerous tissue can be grafted on an organ other than that wherein they were developed. Grafts of both grow better in closely related individuals and are absorbed in an organism belonging to a different species from that from which they were taken. Both tissues can be grafted most easily in the very young and in healthy and robust individuals.

The irritative theory seems to explain many of the facts observed in the study of cancer. Menetrier showed that chronic gastritis can develop into adenomatous tissue and this further into carcinoma. At no stage is it possible to state that the cancer begins, but it is a gradual transition. According to his theory cells which can resist the lowered physiological conditions in which they have vegetated are nothing else but cancer. Irritation is the first stage of inflammation and is accompanied by heat and vaso-dilatation. It has been shown experimentally that irritation increases the assimilation, absorption and karyokinesis of the irritated cells. This theory doubtless explains many of the phenomena of cancer and is the one strongly supported by the author.

J H SKIRZA.

Levin I: The Mechanism of Metastasis Formation in Experimental Cancer *J Exp Med* 1913 xviii, 397
By Surg Gynec & Obst.

In this investigation Levin undertook to study the influence of the host upon the development of metastatic tumors. Two inoculable tumors (a spindle-celled sarcoma and an adenocarcinoma) of white rats were used. Levin concludes that the main factors in determining the frequency and localization of metastases are the character and malignancy of the tumor cell on one hand and the general and local susceptibility of the organism of the host on the other. These differences are not due to the ease of detachment of the cells of the primary tumor. The experiments also show that after radical removal of a cancer without local recurrence inoculation of the same tumor into the original host will always be unsuccessful. The reverse is also true. This shows that when the organism possesses a certain amount of resistance it is able to neutralize the few cancer cells which must be left behind after the most radical operation and for the same reason metastases or secondary inoculations will fail to grow.

JAMES F CRUICKSHANK.

Hugo E. W.: Trauma and Sarcoma (Trauma and Sarkom) *Ztschr f Hygiene gericht u pr kl Med* 913 xlii 716

By Zentralbl f d ges. Chir u Grenzgeb

Hugo reports the occurrence of a tumor along the line of fracture of the upper arm which he believes developed as the result of traumatism. The tumor was diagnosed by X rays, six weeks after the fracture occurred and disarticulation of the arm was done. The case fulfills all the conditions laid down by Coley and Theim to establish an etiological relation.

tuberculous tissue, with cold abscess formation was accidentally cut into in the region of the spinous processes, but this contingency notwithstanding, the grafts were inserted and primary union resulted in each case.

In four cases skiagraphs were taken ten days

to two weeks after operation showing only an imperceptible shadow of the graft.

In three cases flexibility of the spine was apparent four months after operation and yet improvement, local and general, was marked in all cases.

CHARLES M. JACOB.

DISEASES AND SURGERY OF THE SKIN FASCIA APPENDAGES

Valentin, B.: Experiments on Homoplastic Fascia Transplantation (Experimentelle Untersuchungen zur Homoplastischen Fascientransplantation). *Beitr. z. klin. Chir.* 1913, **122**, 574.
By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

After briefly reviewing the present status of homoplastic tissue transplantation Valentin has made a histological study of this process in simple fascial tissue regarding it as the basis of all progress in this direction. The field of application for free mostly autoplastic fascia transplantation is to-day already so large that the question of using the same material homoplastically becomes of especial interest. In a series of experiments on dogs, a piece of fascia lata was removed from a dog and either immediately implanted in a gap in the peritoneum of another dog with silk sutures or first placed in a physiological salt solution at body temperature for ten to fifteen minutes while the site of implantation was being prepared. The abdominal cavity was

used because the nutrition is more rapidly restored and functional stimuli returned more rapidly by partial removal of the abdominal wall (muscle-resection) on account of the necessary resistance against the natural abdominal pressure. In various experiments conducted at intervals of 4 to 296 days, the fascia had mostly healed without being replaced by scar or connective tissue. In the first few days a marked edematous swelling of the whole fascia, with leucocytic infiltration takes place. The characteristic spindle-shaped nuclei retains their staining power as the sign of life and the elastic fibres are also preserved. After 24 days scarcely any difference from normal fascia is to be recognized. The question of relationship in the animal plays no rôle in the healing. The healing process in homotransplantation is more intensive than in autotransplantation, the time element being increased (about 100 days as compared to 26 days).

DRABET.

MISCELLANEOUS

CLINICAL ENTITIES—TUMORS, ULCERS, ABSCESSSES, ETC

Strauch, F. W.: Experimental Transplantation of Tumor Cells (Experimentelle Übertragung von Geschwülsten). *Beitr. klin. Chir.* 1913, **122**, 545.
By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

The researches of Apollant, Henle, and Lewin demonstrated that there was no essential difference between human cancer and that of mice. Strauch was able to transplant tumors from one animal to another whether of the same or different species. The material with which he began was the carcinoma of a mouse which had passed through 26 animals. The injection of the undiluted cancer-juice was always made in the axillary space. The constituents of the food given the animals seemed to have some influence on the development of the tumor. The best material is obtained from tumors about four weeks old which have developed rapidly but do not show extensive necrosis. The spontaneous tumors in mice occur only in the females and seldom produce metastases. In the transplanted varieties metastases occur readily along the blood stream. The cachectic tendencies manifest themselves in marked blood changes and amyloid degeneration of the abdominal lymph glands.

The transplantation of cancer of mice into rabbit was done as follows: A 25 per cent emulsion of cancer juice from tumors averaging 6 weeks old was inoculated under the skin of the back, with 50 per cent positive result. Cachexia usually developed a few days after inoculation. Transplants from these tumors were inoculated successfully in 100 per cent of cases, into other rabbits and these showed very rapid and vigorous development.

The transplantation of these rabbit cancers back into mice was never successful. The morphology of the tumors from these two animals was quite different but those from the same species were alike. In 13 cases experimented on metastases were found in only 1 and that a small nodule in the flexure of the groin. A local recurrence appeared in the same area. On two occasions suspicious nodules were seen in the liver. The vaccination tumors are hard to classify histologically.

KARUTZ.

Carr, W. P.: A Study of the Cancer Situation. *Surg. Gynec. & Obst.* 1913, **17**, 490.
By Surg. Gynec. & Obst.

Carr reviews the known facts bearing upon the etiology and pathology of cancer. He finds that carcinoma is essentially a wild growth of epithelial

Hertzer rejects the retention hypothesis for the following reasons. The cystic contents are not urinous but are similar to the contents of similar cysts elsewhere. The cysts are at no time tubular. In many cases the kidney substance in which the cysts lie is quite normal thus ruling out occlusion by albuminous material, concretions, interstitial inflammations, etc. Objections to the assumption of embryonal error are: (1) The genesis of the tubules in two parts is not beyond question. (2) There is no evidence of a failure of union between segments. (3) The cysts are not confined to the cortical zone. (4) There is no evidence that the contents are the result of secretion by renal epithelium.

Thus negative evidence together with the facts that papillary growth of the lining cells is frequent, and that the disease is progressive in character leads to the assumption that the disease is a neoplastic one.

Microscopically the cysts may be surrounded by normal kidney tissue particularly in infants or by a zone of fibrous tissue especially in adults dead of uremia or they may be so numerous as to be surrounded only by a minimum amount of interstitial material. In the surrounding fibrous tissue are clefts lined by endothelium. The cyst wall itself consists of a layer of fibrous tissue lined by cells which vary in shape from flat to cuboid but are always shorter in the vertical than in the transverse diameter. Masses of lymphocytes often occur about the cysts suggesting miniature lymph nodes. The contents are colloidal with a fibrillar network containing a few cells.

Polycystic disease in other organs corresponds entirely to that in the kidney both in structure and contents. The latter in no case containing material peculiar to the respective organs. That the disease has a congenital basis may be inferred: (1) from its early and often bilateral occurrence. (2) from its frequent association with other developmental errors. (3) from its tendency to appear in other members of the same family or in successive generations. One may assume therefore that polycystic disease is neoplastic has a congenital basis and affects tissue which is common to all the localities mentioned.

Polycystic disease is similar both in structure and cystic contents to certain other conditions which are undoubtedly lymphatic in origin namely cystic disease of the spleen and suprarenals, pararenal cysts, progressive cystic disease of tendon sheaths, cystic lymphangiomata of the tongue and skin. In those which are available for study growth takes place by the formation of clefts lined with epithelium in the periphery which later become cystic. These clefts are identical in appearance with those found in the connective tissue surrounding the cysts in polycystic disease. It seems probable therefore and clinical experience bears it out that the progress of polycystic disease for instance in the kidney is similar to that which can be observed in cystic lymphangiomata of the tongue. Realizing that some of the premises are still under discussion the author offers the following tentative propositions:

(1) Polycystic disease is identical in all the parenchymatous organs. (2) It resembles closely cystic formations which are known to be derived from lymphatic channels. (3) Polycystic disease probably develops from the lymph channels of the organs affected.

Borst M. The Importance of Zoological and Individual Relationship in the Transplantation of Normal Tissues (Die Verpflanzung normaler Gewebe in ihrer Beziehung zu zoologischen und individuellen Verwandtschaft). *T. Internat. Chir. Med. Lond.* 913 Aug. By Surg. Gynec. & Obst.

The transplantation of normal tissues and organs in the same individual (autoplastic transplantation) is always to be preferred to that between different individuals of the same species (isoplastic transplantation) and the latter is superior to transplantation between members of different species (heteroplastic transplantation). The result of any transplantation depends primarily on the different developmental stages of the graft and of the host. Isoplastic and heteroplastic transplantation especially give better results in embryonic than in mature tissue and are available within wider limits in plants and lower animals than in man. The natural relationship of species is shown clearly in heteroplastic transplantation—in the higher animals it is unsuccessful. Biochemical differences, not only between individuals of different species but between those of the same species and even those of the same variety offer obstacles to the success of isoplastic transplantation in the higher animals. These differences decrease with an increase in the degree of relationship within the species therefore isoplastic transplantations between blood relatives have the best chance of success. The establishment of the fact of individuality in a biochemical sense is one of the most important results of the experiments with the different methods of transplantation. Complete harmony in nutrition and function is found only in the tissues of one individual. A Goss.

Von Fürth D. Problems of Physiological and Pathological Chemistry (Probleme der physiologischen und pathologischen Chemie. Fünfundzwanzig Vorlesungen über neuere Ergebnisse und Richtungslehren der Forschung Bd. Gewebeschw.). Leipzig: Vogel 19.

By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

In a surgical abstract only those matters bearing on surgical questions will be considered. In regard to albuminous putrefaction auto intoxication still is not explained. That there is an accumulation of toxic putrefactive products in the intestine during ileus is certain but it has not been proven that an absorption of these products from the intestine takes place. Whether bile inhibits putrefaction also is questionable. The antiseptic action of the bile however has been disproven by the fact that microorganisms thrive as well on bile media as on others. Important advances have been made in the colloid chemistry of muscle physiology. During muscular

tionship between trauma and the appearance of the tumor. Coley's requirements are that the tumor appear as a primary growth a comparatively short time after the injury and at the site where trauma was inflicted. It must also be known that the organ or member was healthy before the accident. They lay down the same conditions and adds that if there exists a new growth at the time of injury, the development of which is hastened by the accident, the increase in size is about four times as rapid as in ordinary cases. KOKIC

Roussay G. Cholesteatomas (Les cholesteatomes). *Bull. Ass. fran. p. l'Etude du Cancer*, 1912, v. 102. By Journal de Chirurgie

After a very minute study of 23 of his own cases of cholesteatoma in man and animals the author shows that the term cholesteatoma at present includes widely different kinds of tumors as to location, objective characteristics and histological structure. The only characteristic they have in common is the presence of cholesterol crystals in their interior.

The deposition of this material in the tissues in crystalline or liquid form represents an infiltration of fatty substance (cholesterol infiltration) which may be observed in inflammatory new formations as well as in true tumors. Certain effects of local deposition of cholesterol are well known such as xanthelasma, arcus senilis and atheroma. It must be admitted therefore, that cholesterol infiltration, whether primary or secondary to microbic infection may contribute to the formation of neoplasms because of the morbid reactions it gives rise to in the tissues.

The name of cholesteatoma is given to these neoplasms. So cholesteatomas caused by local deposits of cholesterol have the same relation to cholesteremia as tophi have to uric acid intoxication. We cannot properly divide them into false and true cholesteatomas, the first being represented by degenerated inflammatory masses (those of the ear for example) and the second by endotheliomas which have undergone cholesterol degeneration such as those of the meninges.

The cholesteatomas of the choroid plexus of the horse do not belong as is generally thought to tumors of the endothelium type but rather to the class of false inflammatory tumors characterized by cholesterol infiltration.

As to the cholesteatomas of the meninges of man it is probable that they are tumors of variable nature and origin frequently with secondary changes and almost always with cystic transformation — tumors of the epithelium of the ependyma, epithelial tumors from fetal inclusion, a sort of epidermoid cyst of the brain and perhaps also endotheliomas. The same thing is true of a series of other tumors, such as glandular epitheliomas, particularly those of the sexual glands, which especially in their embryonic form, show regions rich in deposits of cholesterol.

In short there is no group of tumors with clearly enough defined anatomical and histological characteristics to deserve classification together under the name of cholesteatomas. The term should not therefore be used except in a purely morphological sense. JEAN CURIEL

Benedek, L.: Paraffinoma; with Report of a Case (Die Paraffinoma). *Fest. med.-chir. Press.*, 913, 222. By Zentralbl. f. d. ges. Chir. i. Göttingen.

Paraffin tumors may arise from its injection in warm, liquefied form as well as from the application of the hard cold substance. On account of the irritation of this foreign body on the neighboring tissues a productive inflammatory reaction takes place. Paraffinomas are seldom seen as they arise a long time after the injection and cause very little discomfort. The actual cause of their occurrence is still a matter of doubt. The amount of pressure exerted during this injection and the size of the mass injected may have some bearing on their development.

The author reports a case that came under treatment for a paraffinoma. There was a paraffin tumor in each breast. The skin over the upper half of each breast was spotted bluish red for an area the size of the palm of the hand, and was firmly attached to a hard oval tumor about 2 cm. thick. From the upper part of each tumor arose eight to ten irregular nodules varying in size from that of a pea to that of a hazel nut. An even larger number of nodules could be felt in the infra- and supraclavicular fossae: some of which were arranged like a string of beads the axillary spaces being free, however. On account of the mental derangement the etiology was disputed and two of the nodules were removed to confirm the diagnosis by microscopic examination. The section showed paraffin nests 40 to 50 cm. in diameter surrounded by well-defined laminated connective-tissue capsules, which here and there sent partitions toward the center of the little nodules and divided them into compartments. In the interstitial tissue there was marked round-cell infiltration mostly of lymphocytes. There was also a large number of giant cells in a network of young connective tissue fibres. There were very few blood vessels. HORTSMAN.

Hertler, A. E. Pathogenesis of Congenital Cystic Disease of the Parenchymatous Organs. *S. & Gynec. & Obst.* 1913, xvii, 430. By Surg. Gynec. & Obst.

Polycystic disease occurs in various organs, kidney, liver, pancreas, spleen, cerebral appendages, auto-urinary tract etc. but has been adequately studied only in the kidney. The cysts in this organ have been considered by most writers to be due to the retention of fluid in the unperfused tubules, the precise cause of retention being explained in two general ways. (1) Active pathological processes (2) failure of union of the two parts in which the tubules are assumed to develop.

cells a peculiarity not invested in the serum of cancer patients. This serum reaction is only an aid to the clinical diagnosis. The ability to grow normal and pathological tissue is of tremendous significance for the study of the cancer problem. The immunization against malignant tumors with curative serum and epitheliotoxins has led to no practical results. Vaccination with non virulent virus of hemorrhagic mice tumors as well as the immunization with normal tissue parts are accomplishments of very recent date and offer splendid prospects. The work may be recommended to every surgeon for practical orientation.

KLOSE

SERA, VACCINES AND FERMENTS

Von Ruck K. Relativ Value of Living and Dead Tubercle Bacilli; and Solutions of Their Endotoxins in Active Immunization Against Tuberculosis (Über den relat. Wert lebender und toter Tuberkelbacillen und deren Endotoxine in Lösung bei akt. Immunisierung gegen Tuberkulose). *Beitr. z. Klin. d. Tuberk. Würzb.* 9:3 xiv 353. By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The author gives his own experience in immunization begun in 1896 and discusses Friedmann's publication which claims to have obtained cures in even progressive cases of tuberculosis by immunization with living tubercle bacilli from cold blooded animals. Von Ruck 1896 used an aqueous solution of tubercle bacilli with the fatty constituents removed after grinding and several months maceration. After several years of comparative experiments with different tuberculins on partial antigens and after further experiments on animals in the light of modern serologic achievements he has returned to the old aqueous extract since it contains all the constituents of the tubercle bacilli including their nucleo-proteins and fat content free in the solution. A single dose brings about in the short time of four to five days the appearance of all partial amoceptors in sufficient quantity to give the serum of the patient complete lytic power and to destroy the virulence of the tubercle bacilli. Since this vaccine is effective it is not necessary to use an antigen of living tubercle bacilli as he shows from the literature this is not without danger.

He then discusses the theoretic principles of methods of immunization with living non virulent bacilli or their endotoxins in their relation to the practical specific prophylaxis of tuberculosis. He has given more than 700 injections of his vaccine to children and adults most of whom had been shown by previous examination to be tubercular. Clinical examination of them afterward in connection with experiment on animals have shown that this method yields all that can reasonably be expected of immunization. In regard to the curing of progressive cases of tuberculosis in spite of Friedmann's claims he takes a decided stand against optimism. He hopes regarding the use of endotoxins of bacilli or non virulent bacilli even of cold blooded animals as a means of treatment.

STAMMERS

Brandweiner and Hoch O. Gonorrhoeal Vaccines (Mittteilung über Gonorrhoe) *Wien. M. W. Anz.* 1913 x:1, 304. By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Autogenous gonococcus vaccines produce a stronger local reaction than either monovalent or polyvalent virus from other sources. Allogeneous polyvalent vaccines produce more marked reactions than the monovalent and in this respect sometimes resemble the autogenous vaccines very closely. The assumption that there are differences in the strains of gonococci is thus confirmed. Polyvalent vaccines of different sources but from the same manufacturers give about the same local reaction with equal dosage.

BLANCK.

Von Dungen and Halpern: Complement Fixation Reaction with Cerebrospinal Fluid in Carcinoma (Über Komplementbindungsreaktion mit Liquor cerebrospinalis bei Carcinom). *München med. W. Anz.* 1913 ix 1923. By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The authors used acetone extract of the red blood cells of a paralytic without the addition of sodium hydroxide as an antigen and also a heart extract. The fluid which was free from blood was used in doses of from 0.4 to 0.5 cc. Five cases of carcinoma showed positive reaction in the cerebrospinal fluid though there was no disease of the central nervous system. Syphilis was the only other condition that showed a positive reaction. The fluid of syphilitics however reacted at the same time with heart extract and the pure carcinoma cases did not. In carcinoma the possibility of a general infection must be considered.

KREITER

BLOOD

Stewart: Studies on the Circulation in Man. VII. The Blood Flow in the Feet. *J. Exp. Med.* 1913 xvi 354. By Surg. Gynec. & Obst.

Stewart found that the blood flow in the feet is smaller per unit of volume of the part than in the hand; the ratio of foot flow to hand flow per 100 ccm of the part usually ranging in normal persons between 1 to 3 and 1 to 2. In the supine position with the legs hanging down the flow in the feet seems to be somewhat greater than in the sitting position.

JAMES F. CHURCHILL.

Stewart: Studies on the Circulation in Man. VIII. The Blood Flow in the Feet with Special Reference to Fever. *J. Exp. Med.* 1913 xvi 37. By Surg. Gynec. & Obst.

In the cases of fever in estimated the flow in the feet never exceeded the normal flow and was usually much below the normal. It is suggested in explanation that in fever cases the vasoconstrictor mechanism of the peripheral parts especially of the skin is abnormally excited and some evidence that this is the case is presented. The significance of this increased cutaneous vasoconstriction is assumed to be that it is a compensatory arrangement which secures

activity the formation of acid within the muscle fibers produces changes in the osmotic relations and in the distribution of the water. This same change in the osmotic relation of the muscle is also held to be the cause of rigor mortis since the disappearance of the rigor can be explained by the reversing of the same process. Severe muscular exertion and convulsions produce an early rigor as each muscular contraction increases the quantity of lactic acid.

In the chemistry of nerve substance the lipoids have assumed especial significance. Cholin, a substance found in the brain is physiologically and surgically interesting. The action of many fresh organic extracts in decreasing blood pressure depends on its presence especially thyroid extract and bowel extract in intravenous injections. In small doses it produces decrease in the coagulability of the blood and severe peristalsis of the bowel. Zuelzer's "peristaltic hormone" probably exerts its action through the cholin present.

The problem of blood coagulability has many interesting points unsolved. Whether the decreased coagulability of the blood in hepatic disease and after chloroform narcosis is due to a decrease in fibrinogen or due to substances inhibiting coagulation—antithrombin—remains unexplained. The increase in coagulability following severe loss of blood is due to the hemoconcentration in which much thrombokinase is washed into the blood-vessels from the surrounding tissues. Compression of the circulation of an extremity acts as a leucostyptic as a result of accumulation of thrombokinase incident to the venous congestion. Infusion of salt solution probably increases the blood coagulability by washing out the thrombokinase from the tissues into the vessels. The best method is the administration of a number of cubic centimeters of a hypertonic solution. Intravenous injection of a starch paste is an excellent hemostatic and deserves trying out on man.

Instead of stimulating the production of thrombokinase it may be directly replaced by tamponing the site of hemorrhage with thrombokinase powder or with extracts of spleen, thymus, liver or with serum or by the direct intravenous administration of normal human or animal serum. The action of calcium salts in promoting blood coagulability is also well known. The mechanism of the action of gelatin is unknown and disputed. The pathogenesis of hemophilia seems to be dependent on an anomaly of the thrombokinase production by the vessel walls. Interesting biochemic experiments in regard to inhibition of transudates and exudates by means of calcium salts may be of value in treatments. As the exit of the fluid from the blood into the tissues—producing urticaria, pleural effusions or inflammatory exudates—is dependent on the coagulability of the blood the formation of these exudates and transudates may be inhibited by the administration of calcium salts. The local application of lime water in burns is therefore based upon sound principles. The pathogenesis of rachitis consists in the fact that the osteogenic tissue in spite of the presence

of sufficient calcium salts, has become incapable of assimilation and deposition of the calcium. Rachitis and osteomalacia cannot be separated, though the pathogenesis of the latter is unknown.

Beri-beri is probably due to a disturbance of the phosphorous metabolism of the liver incident to feeding on white rice. Very little is known in regard to the secretory function of the liver. Carbohydrates stimulate the secretion of bile the least, while meat stimulates it the most of all the food stuffs. Introduction of acids into the bowel or the administration of biliary acid salts stimulates the secretion of bile intensely. Cholemia is due probably to a disturbance of the liver function, an incomplete breaking down of the albuminous products rather than to a flooding of the organism with biliary substances.

Stasis and infection are the principal causes of gall stone formation. Cholesterol salts are formed if the cholesterol solvent—the biliary acid salts—are destroyed by bacterial processes or through autolytic processes in sterile bile.

The biochemic investigations of the reproductive organs has resulted in some interesting discoveries. Early castration in man produces a persistence of the infantile type of delayed calcification of the epiphyses, persistent thymus, small thyroid and enlargement of the hypophysis. Autoplasmic transplantation of the testicle has been successfully performed on rats. The internal secretion of the testicle is not elaborated by the radio-sensitive parenchymatous cells but by the interstitial "Leydig" cells. The vitality of the spermatozoa is decreased by physiologic salt solution and increased by alkalies, prostatic secretion, spermatic fluid, and blood serum. In women early castration causes a reversion to the heterosexual type. Implantation of ovaries from another species has been successfully performed in guinea pigs, rabbits, and in the human being. The internal secretion of the ovary is likewise elaborated by the stroma cells of the follicles and of the corpus luteum. Secretions of the male and female are not opposite in action as is seen from the parabiosis of mice of different sexes.

The kidney function is to-day divided into three distinct parts: filtration by the glomerular secretion by the secretory tubules, and reabsorption by the cortex. The newer methods of making functional tests of the kidney are practical only in regard to determining the specific gravity, total nitrogen excretion, sodium chloride excretion and the excretion of foreign substances introduced. Carrel and Guthrie have successfully transplanted kidneys.

In the last two chapters the author discusses neoplasms. The histologic and genetic separation of both of the principal groups cannot be adhered to any more. Mice carcinoma can be converted into sarcoma. The curative action of radium may be explained by the disintegration of cancer cells, the destruction of cell ferments and by the activation of autolytic ferments. The fermentation reaction is no specific for cancer. Normal serum dissolves cancer

Southard E E and Canavan M M Bacterial Invasion of Blood and Cerebrospinal Fluid by Way of Lymph Nodes; Findings in Lymph Nodes Draining the Pelvis *J Am Med Ass* 1913 lx 1316 By Surg Gynec & Obst

This is the fourth paper in a series on the same general subject. The present paper is an endeavor to throw light on the curious fact observed by Gay and Southard that whereas 41 per cent of the bloods remain sterile with the methods used only 28 per cent of the cerebrospinal fluids remain sterile. This work has nothing to do with the controversy between the intravitalists and the post mortemists as to the meaning of the bacteria grown from the cadaver. The authors are led to the conclusion that bacteria from whatever source might enter the blood infect the meninges die out in the blood and persist in the cerebrospinal fluid. It is also conceivable that organisms may in some way enter the cerebrospinal sheath from lymph vessels without passing through the blood. The solution of this problem is not undertaken in this work. The results are tabulated in four tables which show the source and the bacteria found. Nine cases are briefly reported.

The authors reach the following conclusions:

1. This continuation of their former work shows that the cerebrospinal fluid (72 per cent) still leads the heart's blood (68 per cent) in percentage of positive cultures (routine aerobic methods post mortem material).

2. Pelvic lymph nodes led both blood and cerebrospinal fluid (75 per cent).

3. This possibly is due to the great percentage of pelvic lesions in the present series (20 out of 23 cases; 15 of the 20 shown organisms in the pelvic lymph nodes).

4. It is still uncertain whether these findings indicate ante mortem or post mortem invasions. Of course an acute or chronic lesion may conceivably help the penetration of organisms from without.

5. If as seems likely the invasions are intravital or agonal then it would appear that the pelvic lymph node are accustomed to harboring many bacteria.

6. Whether this habit of receiving more organisms than other nodes induces any superiority on the part of these nodes in respect to their power of digestion they cannot say. If so a rationale for Fowler's drainage position might be imagined. Such a rationale would be superior to saying that the pelvic peritoneum is better filtered than others or is differently constructed from peritoneum elsewhere.

7. The pelvic lymph node subject to acute and chronic disease in the insane appears to supply its lymph nodes with very numerous bacteria. Some of these are prophylaxes some doubtless pathogens. They are often found in the cerebrospinal fluid post mortem even when absent in the blood (destroyed?). The pelvis compares under the random conditions studied with the intestinal tract in its habit of supplying bacteria to regional lymph nodes. Perhaps

the pelvis surpasses the intestinal tract since the latter's lymph nodes happened to be studied during an epidemic of intestinal disease which provided an excess of secondary invaders.

8. The hypothesis of a route of meningeal invasion by way of the blood receives added support from this work, although the possibility of more direct invasion must be considered.

EDWARD L. CORNELL

ELECTROLOGY

Glendening L.: The Use of the X Ray in the Diagnosis of Diseases of the Chest and Abdomen. *N Y Med J* 1913, xcvi 664. By Surg Gynec & Obst

The author discusses the subject from the clinical viewpoint. His observations made with the help and guidance of Skinner were chiefly with the fluoroscope. The fluoroscope has the advantage over the plate in that it permits examinations within a short time a portion of the field can be minutely examined with the closed shutter and movements can be observed. Aside from actual diagnosis the X ray may teach the clinician certain phases of physiology and pathology such as the wave of the heart beat the action of the auricles the pulse of the aorta the movements of the diaphragm the position of the fluid in pleural effusion the action of the remains of the contracted lung in pneumothorax the emptying of the bronchiectatic cavity on coughing the act of swallowing the peristalsis of the stomach the method the stomach employs of emptying its contents into the duodenum the physiology of vomiting the normal anatomy of the large intestine and the action of enemas. To a physical examination of the heart the X ray can add little of real value in a given case. In the use of the X ray in examination for pulmonary tuberculosis he distinguishes between early middle and late cases.

In middle and late cases where the clinical diagnosis is usually already quite satisfactory the X ray gives the most data. However even in the early cases with only slight infiltration limited to the apex or a small part of one lobe the fluoroscope may be of value. Though no distinct shadow be seen when the patient takes a deep breath the apices do not light up as in health the diaphragm on the affected side does not move through so wide a space and the tuberculous heart may be present that to say the small heart hanging vertically in the chest and close to the midline. The X ray should always be used in obscure cases for one single sign may throw the balance and it is always possible that the radiological examination may furnish that last straw. Its negative evidence too is comforting where the physical examination reveals nothing.

Pleural effusion casts a shadow on the screen and the pathological anatomy of this condition has been illuminated by the studies of Engel.

an increased flow of blood for the organs mainly suffering from the infective process. Accordingly, the rational treatment of pyrexia if it is considered necessary to treat it is to abstract heat by a process which will not diminish but even increase the cutaneous vasoconstriction. This condition is fulfilled by the cold bath. Antipyretic drugs which act by cutaneous vasodilatation would seem for the same reason to be contra indicated.

JAMES F. CHURCHILL.

Cooley T. B.: The Treatment of Haemorrhagic Disorders. *J Am Med Ass* 1915 **12**: 1277.
By Surg. Gynec. & Obst.

Cooley reviewed the many theories as to the underlying etiology in the so-called hemorrhagic disorders. He believes in view of the large volume of work along this line that temporary or permanent absence of some one of the clot elements is the usual cause of the persistence of hemorrhage in these conditions and that different elements fail in different conditions if not in different cases of the same condition.

He reaches the following conclusions:

1. Blood therapy of some kind is the best remedy we have for hemorrhagic conditions.
2. In hemophilia blood-serum seems to have a specific action so far as checking the hemorrhage is concerned. It may be used as a prophylactic measure as well as to stop existing hemorrhage. Fresh human serum probably is to be preferred.
3. In purpura melana and other toxic conditions in which various blood elements have been shown to be lacking none of the serums is always effective and there are good theoretical and clinical reasons for believing that whole blood should be preferred not only to stop the hemorrhage but for a possible curative effect on the underlying disease condition.
4. Transfusion is not really a difficult procedure. It is deserving of extended trial not as a last resort but as the first treatment in any of the hemorrhagic diseases of toxic nature.

R. W. McNEALY.

Noland L. and Watson F. C.: Embolism and Thrombosis of the Superior Mesenteric Artery. *A Surg Phila*, 913 **1v**: 459.
By Surg. Gynec. & Obst.

The authors report a case of irreducible inguinal hernia, which upon opening showed gangrene of eight feet of ileum. There was no strangulation at either ring. The gut was resected and a Murphy button anastomosis performed. The patient died four days later. At autopsy it was found that union had not begun at the site of anastomosis.

On opening the heart, a vegetative thrombus the size of a ten-cent piece was found situated just above the aortic valve.

Arteriosclerosis and endocarditis are cited as the most common causes of embolism and thrombosis. There is no characteristic symptom complex. The diagnosis is rarely made before operation.

The condition must be differentiated from intestinal

obstruction perforations of gastric and duodenal ulcers acute cholecystitis appendicitis associated with acute peritonitis angina sclerotic abdominal acute pancreatitis lead or renal colic etc etc & simulates intussusception.

Intussusception occurs in children in 56 per cent of the cases while embolism and thrombosis occur after middle life in cases presenting cardiac and vascular changes. The disease occurs in one of two ways. It simulates (a) intestinal obstruction with or without general peritonitis (b) intestinal hemorrhage.

The authors quote Gerhardt who says: A typical case should present the following symptoms: A source for the embolus profuse intestinal hemorrhage unaccounted for by a lesion of the intestinal wall or obstruction of the portal circulation characteristic paroxysmal pain ileus, and the presence of fluid in the abdomen rapid fall in temperature and a large palpable mass between the layers of the mesentery.

The mortality in 47 reported operated cases (Jackson Porter and Quinby) is 92 per cent.

According to Merkel over 150 cases have been reported fatal in nearly every instance.

LUCKY H. LAMONT.

POISONS

Mayo C. H.: Local Foci of Infection Causing General Systemic Disturbances. *Med Herald*, 1915, **3**, 338-370.
By Surg. Gynec. & Obst.

Our real knowledge of the specific organisms which cause the great majority of diseases covers a period of but few decades. The fact that there were such was assumed long ago as evidenced by preventive medicine in vaccination against smallpox.

There are three methods of bacterial invasion. First by continuity of tissues as in the eye, ear and sinuses second by ingestion and third by direct entrance into tissues and lymphatic channels. Looked at from every point of view the mouth may be said to be the greatest portal of entry for pyogenic organisms. Pyorrhea is responsible for the entrance of many infections in youth and as age advances it becomes a most serious menace. Some degree of bacteremia probably exists in all infectious diseases the blood being the principal focus of infection with local manifestations in various organs mucosa or skin.

Protozoa or intestinal parasites play their part in the exhaustion of the vital forces by the development of toxins which are the cause of many chronic diseases.

The total number of instances in which infection takes place by way of the skin is small as compared to that of the alimentary canal.

There probably is no area of equal size which is a greater menace to the health of children than the tonsil an open lymphatic gland in the mouth the drainage of which passes through lymphatic channels into the venous system.

Southard E E and Canavan M M: Bacterial Invasion of Blood and Cerebrospinal Fluid by Way of Lymph Nodes Findings in Lymph Nodes Draining the Pelvis. *J Am Med Ass* 913 In 1516 By Surg Gynec. & Obst

This is the fourth paper in a series on the same general subject. The present paper is an endeavor to throw light on the curious fact observed by Gay and Southard that, whereas 41 per cent of the bloods remain sterile with the methods used only 28 per cent of the cerebrospinal fluids remain sterile. This work has nothing to do with the controversy between the intravitalists and the post mortemists as to the meaning of the bacteria grown from the cadaver. The authors are led to the conclusion that bacteria from whatever source might enter the blood infect the meninges due out in the blood and persist in the cerebrospinal fluid. It is also conceivable that organisms may in some way enter the cerebrospinal sheath from lymph vessels without passing through the blood. The solution of this problem is not undertaken in this work. The results are tabulated in four tables which show the source and the bacteria found. Nine cases are briefly reported.

The authors reach the following conclusions:

1. This continuation of their former work shows that the cerebrospinal fluid (72 per cent) still leads the heart's blood (63 per cent) in percentage of positive cultures (routine aerobic methods post mortem material).

2. Pelvic lymph nodes led both blood and cerebrospinal fluid (75 per cent).

3. This possibly is due to the great percentage of pelvic lesions in the present series (30 out of 25 cases, 15 of the 20 showing organisms in the pelvic lymph nodes).

4. It is still uncertain whether these findings indicate ante mortem or post mortem invasions. Of course an acute or chronic lesion may conceivably help the penetration of organisms from without.

5. If it seems likely the invasions are intravital or agonal then it would appear that the pelvic lymph nodes are accustomed to harboring many bacteria.

6. Whether this habit of receiving more organisms than other nodes induces any superiority on the part of these nodes in respect to their power of digestion they cannot say. If so a rationale for Fowler's drainage position might be imagined. Such a rationale would be superior to saying that the peritoneum is a better filter than others or is differently constructed from peritoneum elsewhere.

7. The pelvis is often subject to acute and chronic disease in the insane appears to supply its lymph nodes with very numerous bacteria. Some of these are saprophytes some doubtless pathogens. They are often found in the cerebrospinal fluid post mortem even when absent in the blood (destroyed?). The pelvis compares under the random conditions studied with the intestinal tract in its habit of supplying bacteria to regional lymph nodes. Perhaps

the pelvis surpasses the intestinal tract since the latter's lymph nodes happened to be studied during an epidemic of intestinal disease which provided an excess of secondary invaders.

8. The hypothesis of a route of meningeal invasion by way of the blood receives added support from this work although the possibility of more direct invasion must be considered.

EDWARD L CORNELL

ELECTROLOGY

Glendening, L.: The Use of the X Ray in the Diagnosis of Diseases of the Chest and Abdomen. *A J M J* 1915 xcvi 664

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The author discusses the subject from the clinical viewpoint. His observations made with the help and guidance of Skinner were chiefly with the fluoroscope. The fluoroscope has the advantage over the plate in that it permits examinations within a short time a portion of the field can be minutely examined with the closed shutter and movements can be observed. Aside from actual diagnosis the X ray may teach the clinician certain phases of physiology and pathology such as the wave of the heart beat the action of the auricles the pulse of the aorta the movements of the diaphragm the position of the fluid in pleural effusion the action of the remains of the contracted lung in pneumothorax the emptying of the bronchectatic cavity on coughing the act of swallowing the peristalsis of the stomach the method the stomach employs of emptying its contents into the duodenum the physiology of vomiting the normal anatomy of the large intestine and the action of enemas. To a physical examination of the heart the X ray can add little of real value in a given case. In the use of the X ray in examination for pulmonary tuberculosis he distinguishes between early middle and late cases.

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bach and Carman In lung abscess the X-ray is of first rate importance In every case of continued fever after the crisis of a lobar pneumonia where the diagnosis of pus in the pleural sac is not readily established a radiograph should be taken This will show the cases of interlobular empyema obscure lung abscess and delayed resolution

By a single examination of the stomach after a bismuth meal we can learn the shape and size of the stomach the tone of the gastric muscle the rate of emptying the stomach whether there is stasis or not whether there is any growth into the lumen of the stomach such as carcinoma whether or not there is any constriction of the lumen hourglass stomach In early simple gastric ulcer the X-ray is merely an adjunct to a well taken clinical history Chronic ulcer may show stenosis Perforating ulcer may show the characteristic diverticulum

ALBERT MILLER

Czerny V: The Non Operative Treatment of Cancer (Zur nichtoperativen Behandlung des Krebses) *Verhandl d Gesellschaft deutscher Naturforscher u Ärzte* 1913 n part 2 25
By Zentralbl f d ges Chir u f Grenzgeb

The author describes cases that were freed from malignant new growths by non-operative means A woman operated upon six times for sarcoma of both superior maxillae was energetically treated with röntgen rays Eight years later she was still free from recurrences The results obtained in three cases of epithelioma prove that superficial cancers of the skin can be cured by mesothorium radium and röntgen rays A carcinoma of the lower lip an epithelioma of the right temporal region and a carcinoma of the left temporal region were treated by electric-light rays A female patient with a cancerous growth which hung from the tip of the nose and made the ingestion of food almost impossible and who had also a rodent ulcer at the outer angle of the nose was treated with a Forest needle and mesothorium with such good results that it was possible to leave her to the care of her family again.

Two lupus carcinomata were cured by fulguration and another by the röntgen rays An apparently sarcomatous tumor of the parotid region treated twice by radical operation recurred It was cured by injections of salvarsan into the tumor and gluteal region It seems however that lues was not definitely excluded A primary round celled

sarcoma in the region of the lachrymal gland was benefited by salvarsan and röntgen rays In this case the glands on both sides of the neck were the size of a pigeon egg The glands decreased in size and the primary tumor was operated upon by the osteoplastic method The protrusion of the eyeball recurred and the treatment was supplemented by the injection of cholin with such good results that a complete cure was expected

An apparently inoperable involvement of the lymph glands after sarcoma was cured by thorium X injections into the glands, followed by treatment with röntgen rays The patient has been free from signs of recurrence for six months An epithelioma nuchae was removed from one patient with a Forest electrocaustic needle and a perfect healing followed Two cancers of the breast adherent to the ribs were healed by electric light rays and fulguration An advanced recurrence of inoperable type in a carcinoma of the stomach was treated by röntgen rays and has remained healed for two years This case the author claims is the best evidence he can offer in favor of the healing of cancer by means of röntgen rays applied with sufficient intensity Another case shows with what good results an almost inoperable gastric carcinoma at the cardia can be treated by the electrocautery and röntgen rays With a carcinoma of the scrotum all operative procedures had failed Curetting followed by fulguration succeeded in producing a flat scar but six weeks later local recurrences and internal metastases took place A carcinoma of the abdominal wall following an operation for carcinoma of the splenic flexure was removed with a Forest needle and healing followed Death occurred after several months, however from metastases in the liver A cylindrical celled carcinoma of the rectum which on account of its extent could not be completely removed by operation was treated after excision by fulguration At the end of two and one half years the patient was still free from recurrences

Mesothorium and thorium X when used in cases of ulcerative cancers often bring about cancers breaking down and a flattening of the granulations The action of borcholin and selenvaradium on tumors and testicles of animals is discussed In the case of tumors, hyperaemia and hemorrhage begin the process of resorption The spermatocytes are destroyed at the point at which the chol n is injected
Cottier

GYNECOLOGY

UTERUS

Berczeller I. A Palliative Treatment of Inoperable Cervix Carcinoma with Powdered Sugar (Palliative Behandlung inoperabler Portiocarcinome mit Zuckerstaub) *Zentralbl f Gynäk* 1913 xxxvi, 852
By Zentralbl f d ges Gyn u Geburtsh s d Grenzgeb

The author considers the local use of powdered sugar a suitable and convenient method of palliative treatment. The foul odor is decreased, the lochia diminished, hemorrhage lessened, and the appearance of the carcinomatous area is improved. The patient steadily gains strength. It is advisable to use this method also before operation. The cervix is brought into view by means of a speculum and sponged dry. The speculum is filled partly with powdered sugar and an iodoform tampon is inserted. This is repeated daily or two to three times a week.

MORALLER

Ries E. Theoretical and Practical Foundations of a Radical Operation for Carcinoma of the Cervix Uteri *J Am Med Ass* 1913 Jan 1266
By Surg Gynec & Obst

The title explains the contents of the paper. Our knowledge of cancer is built on clinical and pathological observations. Cancer in its beginning is a purely local disease. It invades the host in two ways: first by continuity and secondly by metastases. Contiguous growths invade lymph-channels early and regularly, the blood circulation rather incidentally and less frequently. The primary tumors and the metastases degenerate and become infected. As long as the cancer is confined to the primary focus the removal of a block of tissue which contains all of the cancer eliminates the latter. If colonies have become established the removal mass ought to comprise the original tumor and all the metastases and all the tissue as well in other words a prerequisite of a radical carcinoma operation is that of a continuous rather than a non-continuous dissection. The dissection of the carcinoma block in carcinomas of the cervix is the best example of continuous dissection and the results are very fair. Inherent in a cancerous cancer, if other parts of the body limit the immediate use of the operation, though continuous dissection might improve the remote results. The accessory risk for infection with cervix cancer are the aesthetic and infection arising from outside but the greatest accessory risk is carcinoma of the cervix itself of separate from the infected primary tumor brought about by the growth of the cervix or from crumbling lymph nodes arising from lymph vessels in the neighborhood. The inherent risk are hemorrhage injury

to the uterus and production of large wound in the connective tissue. Another weak point in our cervical cancer operation is the unavoidable breach in the principle of continuous dissection. To avoid the latter it would be necessary to include part of the ureters and also the pelvic diaphragm and the paracolpium. But this means greater demands on the tolerance of the patient. However at present we have no reliable means of determining beforehand the limits of this tolerance in individual cases. Operative mortality and remote results therefore have the tendency to show an inverted ratio. The better the surgeon's technique the greater things he may dare. In conclusion it is to-day wrong and unscientific to withhold the chance of operation from any patient with cancer of the cervix and this in spite of all risks which the operation involves.

HENRY SCHULTZ

Hersfeld B. A Contribution to the Statistics of Carcinoma of the Uterus (E. B. trager Statistik des Carcinoma uteri) *Petersb med Zisch* 1913 xxx, 167

By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

Of 7947 female out patients treated during ten years, 153 had cancer of the uterus. Of these 57 or 37.2 per cent were still operable and 96 or 62.8 per cent inoperable. The small number of operable cases Hersfeld attributes to the delay of the patients in seeking medical aid and he hopes that an improvement will occur as a result of the propaganda instituted by the Baltic Physicians Congress. A small increase (10 per cent) in the operable cases has occurred since this congress.

KÖNIG

Brown L. Cancer of the Uterus; Importance of Family Diagnosis *N Y St J Med* 932
By Surg Gynec & Obst

The author quotes Frederick L. Hoffman, statistician of the Prudential Insurance Company of America. Hoffman states that cancer is becoming more prevalent in the United States every year and that now its death toll is greater than that of tuberculosis. In the United States the death rate per annum is 3,000 for the civilized world nearly half a million. Among men between the ages of 45 and 64 the proportion of deaths from cancer is 7 per cent among women 16 per cent. Cancer of the stomach and liver is equally prevalent in men and women but cancer of the breast and generative tract is what causes the greater percentage of cancer among women.

Certain occupations especially those in which persons are exposed to coal dust and products of coal dust seem to predispose to cancer.

The author quotes Cullen Winter and Wertheim as regards extension of cancer from the uterus and discusses Schauta's extensive vaginal operations.

Wertheim's abdominal operation is also taken up. Brown believes that Wertheim's vaginal and parametric clamps are of value in avoiding a possible sepsis or venous bleeding. From the statistics of Wertheim 19.5 per cent of all cases of cancer of the uterus are cured of Schauta 16.1 per cent while the author states that a simple hysterectomy cures only about 8 per cent.

Lauré's classification of uterine cancer is accepted and the author concludes that by education of the people, early diagnosis will enable more lives to be saved by operation. FUGENE CART

Weibel W: The Clinical Position of Carcinoma of the Corpus Uteri (Die klinische Stellung des Carcinoma corporis uteri). *Arch f Gynäk* 1923 135.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Carcinoma of the body of the uterus is relatively rare. At the Wertheim Clinic only 67 cases have been operated upon in 14 years. Two cases were inoperable and one refused the operation. That makes a total of 70 cases as compared to 1500 cervical cancers, 714 of which could be operated upon. The ratio of cancers of the body to those of the cervix is therefore 5:100 and if only the operable cases are considered 9.5:100. Among the symptoms hemorrhage takes the first rank. The primary mortality was 10.5 per cent. Twenty-four per cent had never been pregnant. There appears to be a large number of multiparae among the cases of cancers of the body. The most essential difference between cancers of the cervix and the body lies in the fact that in carcinoma of the body the parametrium is involved in only 16 per cent whereas in cervical carcinoma it is involved in 55 per cent. Recurrences took place in 20 of the 67 cases of cancer of the body and these were usually local. Permanent cures varied from 51.2 per cent to 60 per cent. The radical abdominal operation is to be preferred. KLEIN

Candela y Plá M: Surgical Treatment of Uterine Cancer (Chirurgische Behandlung des Uteruskrebes).

Cien. méd. Valencia 913 22 97.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

Wertheim's operation does not fulfill all the requirements of the surgery of uterine cancer. The complexity of the problem and the lack of positive indications as a basis for the determination of operability render the collection of statistics so difficult that the requirements of critical investigators are not satisfied. The radical operation involving the cleaning out of the pelvis is of prophylactic importance only in cases where the infiltration of the gland nodes and cellular tissue is not yet cancerous. Under these circumstances the total extirpation of the uterus with the vaginal vault either abdominally or vaginally may give

just as good results without the added danger of the extended operation. In cases at the limit of operability an extended Freund's operation with the removal of the parametrium no wider than necessary for the enucleation of the uterus from its normal attachments and of the vaginal vault by the thermocautery and the use of Wertheim's forceps is acceptable. The secret of a cure is an early diagnosis, more so in cancer than in any other disease. A general international vote would find the followers of Wertheim's operation in the minority. Physicians are requested to join the movement which originated in Germany to improve the curability by early diagnosis. MICHAEL

Von Lingen L: Giant Myomatous Cyst (Zur Anatomik der Riesenmyomatozen). *Zentralbl. f. Gynäk.* 1923 XXXVII, 2109.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The case was one of giant myomatous cyst in which a diagnosis of an ovarian cyst had been made. The weight of the tumor was 45½ pounds, including the cystic fluid. It originated from the posterior wall of the uterus. The anterior wall was free from the tumor in plastic manner.

The author points to the rarity of these tumors. According to the genesis these tumors are divided into (1) lymphangectatic (2) degenerative due to a necrobiotic process in a solid tumor (3) solid tumors originating according to von Recklinghausen, in remains of the wolffian duct. Microscopically this tumor proved to be lymphangectatic in origin. MARCUS.

Thomson J W: Tuberculosis of the Uterus. *Lancet Lond.* 913 cxxxv 000.

By Surg. Gynec. & Obst.

The author reports a case of tuberculosis in the body of the uterus in a girl aged 20. At the age of 13 she was operated on for dysmenorrhea. Her appendix was removed at 18. Her main symptom was frequent urgent, and painful micturition. A large amount of pus containing colon bacilli was found in the urine but no tubercle bacilli. Both ureters were thickened the right more markedly. A communication was found to exist between the bladder and uterus. On separating the uterus from the rectum an aperture one inch in length was left in the rectum. The lumen of the rectum was narrowed as in Jellet's case. There was a serous line of demarcation between the healthy cervix and the body of the uterus. The histological study by Stewart showed the typical lesions of tuberculosis. C. H. DAVIS

Müller: The Findings in Recurrent Hemorrhages after Röntgenization (Beobachtungen bei Rezidiven nach Röntgenbestrahlung). *Monatsh. f. Geburtsh. Gynäk.* 1923 XXXVI, 397.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Hemorrhages reappeared in a myomatous patient after a menopause of seven months. Bleeding continued in spite of further application of the X-ray.

At the patient's request operation was performed. Two intramural myomata were found in the uterus and the ovaries showed senile change. Microscopic examination revealed myomatous tissue, a normal endometrium and atrophic ovarian tissue. The cause of the recurrence was the presence of a remnant of functioning ovarian tissue, hence a continuation of the reorganization would have led to the desired cure. Müller recommends therefore that two or three treatments be given after the cessation of the hemorrhages. ZINSSER

Sancs: Is Membranous Dysmenorrhoea Caused by Endometritis? *J Am Med Ass* 19 3 12, 1433
By Surg. Gynec. & Obst.

Sancs uses the term menstrual membrane instead of membranous dysmenorrhoea since the passing of membranes during menstruation is not always accompanied by pain. It is a much more common condition than is generally supposed.

Shreds and epithelium are invariably found in clots. Desquamation of the vagina and even skin have also been observed by some authors during menstruation.

Basing his descriptions of the endometrium on the authoritative statements of Milnes Marshall, Heape, Leopold, Westphalen, Young, Hitchman, Meerdervoort and many others, he classifies the histology of the normal endometrium as follows:

1. Quiescent stage. During which the epithelial cells lining the surface of the mucosa and glands show considerable difference in their shape, size and nuclei. The glands appear straight or slightly tortuous in regular and almost parallel rows. Each gland is surrounded by a network of spindle shaped connective tissue elements and outside of it by the stroma. The stroma appears as a soft protoplasmic mass, imperfectly differentiated into cells. The blood supply of the superficial surface of the mucosa consists of capillary tracts running parallel to the surface epithelium.

2. Premenstrual or constructive stage. Serous infiltration of the upper layer of the mucosa. Round cell infiltration and capillary congestion in the stroma. The glands become very much dilated and more tortuous; their lumina are filled with mucus, and in some places also with leucocytes and red cells. These glands are found only in the deep layers of the mucosa. The superficial layer is poor in glands, thus forming two layers in the endometrium: an upper compact one and a lower spongy one.

3. Destructive or menstrual stage. Arterial congestion leads to the dilatation of the superficial capillary tracts. Vascular pressure is increased. Migration of the red cells occurs, and the flow is established. The mucosa is destroyed to a various degree and also carried off as shreds and debris. The denudation, according to most authorities, is due to a mechanical cause.

The extravasation and accumulation of blood in the spongy layer of the endometrium loosens and

separates this lower layer from the upper compact and more resistant one which is then expelled under the influence of uterine contractions during menstruation. The menstrual membrane presents a varied appearance both grossly and microscopically and this not only in different persons and at different periods but in the same person during the same period. Generally the picture is that of the degenerative changes occurring in the upper layer of the endometrium during the premenstrual stage. As to the pathology at present there are no clinical or microscopic evidences to show that the exfoliation of the mucous membrane is due to an inflammation of the endometrium or to any disease in the adnexa which are found normal in many cases of membranous dysmenorrhoea.

Neither is sterility a necessary sequel. All these conditions may be associated with menstrual membranes, but are neither the cause nor result of them. It is further shown that certain species of female monkeys whose endometrium undergoes similar changes during menstruation to those of the human female, expel uterine membranes at each menstrual period. If it is physiological in one case, why not in the other? As a theory for the cause of greater denudation in some persons than in others, the author suggests that the action of the ovarian hormone which normally produces menstruation is more intense in some cases than in others, or that the susceptibility of that individual is greater, thus bringing about more destruction of the endometrial mucous membrane in these cases.

L. ROBERT GOLDSMITH

Watkins T J: Infantile Type of Uterus with Dysmenorrhoea. *Surg. Gynec. & Obst.* 1913 xvii 461
By Surg. Gynec. & Obst.

The author gives the result in the treatment of sixty severe cases which required hospital attention. The early ones were treated by using tents repeatedly until free dilatation was obtained. The later ones were treated with an intra-uterine stem which is a silver tube made in various sizes. This is felt to be better than the tent as its use is attended by less danger of infection and can be worn for a longer time. The tube is inserted under strict antiseptic precautions and is worn from one to three months. It is sutured in place. The principle of the treatment is that the tube stimulates uterine development. There were sixty cases studied but in only thirty-one was it possible to follow the cases up to the present time. Of the 31 cases fifteen were cured, ten improved and six not benefited.

Martin F H: Prolapse of the Uterus. *J Am Med Ass* 19 3 12 1246
By Surg. Gynec. & Obst.

Martin recommends his modification of the Dührssen-Watkins-Wertheim anterior transposition operation and a restoration of the levator ani muscles as the most modern and satisfactory for descent of the uterus. It is an ideal procedure for women past the child bearing period. In child

bearing women if justifiable by the severity of the condition renders the patient sterile by interrupting the tubes. His modification consists in dissecting free the vesico-uterine ligament. The bladder is carefully elevated to the level of the top of the fundus of the uterus. The cervical ends of these bands are secured appropriately shortened crossed upon each other to make a support for the bladder and the ends are securely transplanted into the fundus of the uterus just in front of the crest. The anterior vaginal wall is closed. After the fundus has been delivered he incises the sacro uterine ligaments. A pair of 8 inch artery forceps are thrust through the base of each broad ligament at the level of the internal os and from a point in front of the cervix from within the longitudinal vaginal incision into the cul de sac of Douglas. The sacro uterine fold is grasped at a point about one third of the distance from its uterine end and the fold is drawn through the route of the forceps on either side of the cervix. The latter is pushed upward and backward and the folds of the ligament are secured firmly in front of the cervix. The fundus is then fixed by the vesico-uterine ligaments as heretofore described. The levator ani muscle suture completes the operation. Martin avoids amputation of the cervix wherever possible. He desires to have the cervix riding well back of the reconstructed perineum to aid in preventing the uterus paralleling the vagina.

HEART SCHMITZ

Montgomery F. E.: Vagino-Uterine Prolapse and Its Effective Treatment. *J. Am. M. A.* 1913 1: 1245. By Dr. F. E. Montgomery & Obst.

The diseased and distorted uterus is removed and prolapse of the bladder and rectum is prevented by suspending these organs from the upper surface of the broad ligament. The possibility of a cystocele following the operation is obviated by the interposition of the levator ani muscles. Montgomery claims that by this procedure the normal length of the vagina is preserved.

HEART SCHMITZ

Naarsberg, J. and Geedorff M.: Genital Prolapse and Especially the Results of the Treatment. (Der Genitalprolaps mit besonderer Rücksichtnahme auf das Resultat der Behandlung.) *Verhandl. d. Nord. Chir. Versam. Kopenh.* 913. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Following a short historical introduction in which the authors in the main accept the Halban and Tandler theory of genital prolapse although they like Martin attach more significance to the connective tissue than do the former they present their own material. Two hundred and ninety-nine patients were operated upon between 1897 and 1912. It was possible to determine the condition of 293 of these. Three of these died later. The others are divided according to the method of operation as follows: Schauta Wertheim operation 44 times with 7 partial recurrences, vaginal fixation and plastic operation 7 times with no recurrence.

colporrhaphy and colpoperineorrhaphy or anterior colporrhaphy 126 times with 27 recurrences, colpoperineorrhaphy (incomplete rupture) 54 times with 4 recurrences. Tait's or Watkins' method for complete rupture 27 times with one complete failure and 3 cases of partial incontinence, vaginal plastic operation and antifixation by laparotomy 20 times with one recurrence and extirpation of the uterus and plastic operation on the vagina 21 times with 4 recurrences.

With the Schauta Wertheim operation no recurrence with cystocele took place in all cases of failure, cervical hypertrophy took place. In regard to the technique employed the authors since 1907 performed an extensive separation of the bladder and a high colpoperineorrhaphy with suture of the levator. The Olshausen method of ventrosuspension was employed almost exclusively.

Gammeltoft: Results of the Treatment of Genital Prolapse in the Gynecological Department of the Obstetrical Hospital and in the Gynecological Department of the Reich Hospital (Resultate der Behandlung des Genitalprolapses in der gynäkologischen Abteilung der Entbindungsanstalt und der gynäkologischen Abteilung des Reichshospitals). *Verhandl. d. Nord. Chir. Versam. Kopenh.* 1913.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The material consists of 150 cases operated upon between 1900 and 1912. Six patients died as a result of the operation. The operative mortality therefore was 4 per cent. One hundred and thirty-two patients were re-examined of these 3 died later the result of the operation not being known. Of the remaining 127 there were 81 completely successful, 17 partially successful cases and 29 recurrences. In 3 cases the operation was successful but a cervical hypertrophy developed later. The 17 partially successful cases are those in which the patients have only slight symptoms and those in which a slight cystocele resulted but in which the objective findings were only partially successful.

Of the recurrences 13 were anterior colporrhaphies and colpoperineorrhaphies, 4 cases operated upon by Westermarck method, 3 by Schauta Wertheim and 2 with a vaginal plastic operation and an Olshausen's fixatio. The Schauta Wertheim operation was performed 5 times in 2 with good result and in the others with recurrences. Westermarck lateral colporrhaphy was performed 11 times.

Of the 8 cases re-examined 4 were successful and 4 had recurrences. The poor results were probably due to the fact that the technique used was wrong until Westermarck himself demonstrated it at the clinic in August 1912. Twenty cases of displacement of the uterus were treated by plastic operations on the vagina. Of these only 4 had recurrences. Both were fixed by Olshausen's method. In those patients who were operated upon by Dolans or Alexander Adams methods no recurrences resulted. For the abdominal fixation methods therefore there were only 10 per cent of recurrences whereas for the

vaginal plastic methods alone there were 20 per cent. Eleven of the patients operated upon were delivered of full term children. Two were delivered with forceps and had recurrences. Of the remaining 9 one had the sensation of prolapse but no recurrence, and one had a recurrence.

In regard to the technique the author recommends careful separation and lowering of the bladder. In addition a high colpoperineorrhaphy is advised. The levators should not be exposed but should be grasped with deep carrying sutures. Since ventrofixation or ventrosuspension has been performed more frequently the results have improved among the last 50 cases there were only 9 per cent recurrences. Extended colpoperineorrhaphy combined with abdominal fixation or suspension seems to offer the best results.

Möller O: Results of Operations for Genital Prolapse (Res. lute von Operationen wegen Gen. tal prolaps). Versamml. d. Nord. chir. Ver. in Kopenh.

By Zentralbl. f. d. ges. Gynaek. u. Geburtsh. d. Grenzgeb.

The material comprises 260 patients treated from 1894 to 1912. It was possible to trace 220 of these patients. Since 1899 the methods of Simon Hegar and Tait have been employed, and since 1909 suture of the levator ani and the Schauta-Wertheim operation in some cases. Double plastic operation on the vagina was employed in 124 cases, with recurrence in 14.5 per cent. A marked improvement is noticeable since the levator ani suture has been performed. Colpoperineorrhaphy was performed in 43 cases with recurrences in 23.1 per cent. These poor results are probably due to the fact that formerly not enough attention was paid to slight degrees of descent of the anterior wall and beginning cystocele.

The Schauta-Wertheim operation was performed in 25 cases in only 14 of these has sufficient time elapsed for observation and in one of them recurrence took place, the patient being 71 years old and the uterus atrophic. Ventrofixation accompanied by plastic operation on the vagina was employed in 15 cases but was unsatisfactory. If the Schauta-Wertheim operation can be performed it should be given the preference. The procedure is less dangerous and the stay in the hospital considerably less. The last operation for complete rupture was performed 2 times. Four of these were improved, 2 cured and 5 did not return for re-examination.

S. H. GANDELTOFF

Polak J. O.: A Study of the End Results of the Baldy Webster Operation. J. Am. U. S. 93 1 450.

By Surg. Gynec. & Obst.

Polak discusses the principles of uterine support and the action of the supporting ligaments. He describes the action of the Baldy Webster operation and its effect on the position of the ovaries and demonstrates his technique for the operation. He has studied the records of 400 operations performed in his clinic from January, 1908 to January, 1913.

and renders the following summary: 24 patients have been lost track of leaving 376 for analysis. Two hundred and two or more than 50 per cent have perfect pelves, the uterus is in normal position and free from adnexal or parametrial inflammations. One hundred and sixty of this number have complete relief of all pelvic symptoms. Thirty-nine complain of pelvic pain, burning sensation over the lower abdomen and menstrual pain. Three have died from causes independent of the operation before or soon after leaving the hospital. Of the remaining 174 fourteen have had secondary operations for pelvic or abdominal conditions. The intra-abdominal pathological conditions in each have been carefully studied. These have shown: (1) unequal development of the ligaments with lateral version of the uterus; (2) enlarged prolapsed ovaries due to elongation of the utero-ovarian ligament and adhesions; (3) adhesions of the sigmoid to the ligamentous loop; (4) edema of the round ligaments from constriction with subsequent adhesions to intestines; (5) if the uterus is large and sinks in the intestinal loops the ovaries are thrown upward and inward and become adherent to one another behind the uterus forming a sensitive mass. These findings have been constant in the reopened cases. In 32 patients the uterus had relaxed and was found retroverted and prolapsed carrying the ovaries with it. Thirty are wearing pessaries. Eighteen are unimproved. Ten have lateral version and pain in the side toward which the uterus is drawn. Sixteen have prolapsed and cystic ovaries. Two have ovaries lying anterior to the broad ligament. Twenty-six have thrombosis of the pelvic veins. Twenty have had children subsequent to the operation. Twenty-two have aborted. In all 43 pregnancies occurred from which observations could be made. No complication of labor has been recorded, only one delivery has required forceps. Fourteen of the pregnant women have had great pain and discomfort during the first trimester, only four relapses have followed labor.

The operation should not be selected for heavy uteri with the cervix in the axis of the vagina. It is successful when the uterus is small, the cervix points backward and the ligaments are equally developed.

HEAVY SCHULTZ

Childs G. P.: Suggestion for the Technique and Performance by a New Method of Wertheim's Abdominal Pannystereotomy. Proc. Roy. Soc. Med. 913 vi Obst. & G. ex Sect. 339.

By Surg. Gynec. & Obst.

The author points out that the patients operated on by the Wertheim method are often lost through infection. Their resistance is lowered from the disease, two extensive wounds are exposed to infection, the pelvic wound is open to the external surface by way of the vaginal canal. Retzius's space is freely opened and a dead space left after the operation, all of which favors infection.

The patient anesthetized for the operation is

placed in the lithotomy position and all the soft growth removed with scissors and sharp spoon. The raw surface left is thoroughly cauterized with Paquelin's cautery. The vagina is then scrupulously dried and painted with iodine. Finally the vagina is tightly packed with dry sterile gauze, one end of which is left hanging out of the vagina. This gauze is removed just before opening the vagina.

The author emphasizes the following points in the operative technique:

1. Secure perfect hemostasis if possible.
2. Leave no foreign bodies such as ligatures in the wound.
3. Use no gauze for drainage.
4. He employs only four silk ligatures: one for each ovarian and one for each uterine artery. For the rest he depends upon the use of a heavy crushing clamp and the cautery. When hemostasis is not complete gauze may be picked in the pelvis and left for 24 hours.

C. H. Davis

ADNEAL AND PERIUTERINE CONDITIONS

Keep C.: Two Cases of Solid Pedunculated Papilloma of Ovary. *Proc R y Soc Med* 10 J. 1, Obst & Gynec Sect 284, By J. R. Gynec & Obst.

The author reports two cases with photographs of the specimens and microscopical sections of the growths. The chief points of interest in these cases seem to be: (1) The bundles of long wavy fibrous tissue composing the stroma which in no way resembles the short fibres of ovarian stroma and ovarian fibromata. (2) The attachment of each tumor by a distinct pedicle to an otherwise apparently healthy and active ovary.

The author could find no reference in the literature to any ovarian tumor possessing these characteristics. He believes that the tumors arise from an embryological area such as the Müllerian duct or the promesophros. The Pathological Committee reported: "We have examined the specimens and sections and agree with the description given by the author. We are of the opinion that the growth has originated in the ovary and is not of Müllerian origin."

C. H. Davis

Iscano P. Inflammation of the Adnexa and Neurosis from a Surgical Standpoint (Adnexa und Neurose vom chirurgischen Standpunkt). *J. d. med. 9 J. 1, 93*. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

To secure positive results in the treatment of chronic disease of the adnexa a minute general and local examination is necessary. The condition of the nervous system, exerting an influence on the functions of the genital system, must be taken into consideration. The patient is often subjected to unnecessary local treatment. On the other hand, the bad influence to which such nervous conditions are exposed by changes which even on bimanual palpation are of little apparent importance must not be overlooked. A condition which is at times

important is the sclerotic ovary with its characteristic pathological changes, of an unknown but not bacteriological origin and which shows on palpation a slightly enlarged, not adherent firm organ with small cysts on its surface. These findings are significant in the interpretation of local disturbances as causes of general symptoms. An operation is justifiable in all such cases if the uterine treatment is unsuccessful.

M. Czerny.

Wallart J.: So-called Salpingitis Isthmica Nodosa (Welterer Beitrag zur sogenannten Salpingitis isthmica nodosa). *Zischr. f. Geburtsh. u. Gynäk.* 19 J. 1, 77. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The patient a nullipara 51 years old died from embolism of the pulmonary artery following thrombosis of the left femoral vein. A spindle-shaped mass 14 mm long 6 to 7 mm thick of firm consistency was found in the left tube close to its insertion into the uterus. A cyst was found in the right ovary and numerous subserous, submucous and intramural myomata were detected in the uterus. It was suspected that the tumors were multiple adenomyomata of the uterus according to von Recklinghausen. The tumors were microscopically examined in serial sections. The uterine tumors were myomatous and not adenomyomatous. As there were no traces of epithelial inclusions. The tumor of the tube however presented in its center an adenofibroma or salpingitis isthmica nodosa. It consisted of muscle and connective tissue fibers running in all directions, within which were embedded numerous arteries and veins and epithelial formations of many different varieties. The epithelial structures were disseminated downward into the interstitial portion of the tube and uterine musculature and also into the loose tissue of the mesosalpinx at the isthmus portion of the tube. There was no connection between the epithelial tubes extended mucosa of the tube. The tubal body therefore over Müller duct into the epithelium originated from the mesonephros was suggested. Remnants of the Wolffian body were found in both ovaries of the former and still existing inflammatory signs of former and still existing inflammatory processes round-cell infiltration and abscess formation in the tube. Therefore the theory of mesonephric origin had to be rejected in favor of a purulent process in the tubal wall caused a displacement of the wall. The mucosa into the external layers of the wall. The displaced mucous membrane elements continued to proliferate and led to the formation of the tumor.

Barrt

Somers G. R. and Blaisdell F. E. The Anatomy and Surgical Utility of Sacro-Uterine Ligament. *J. Am. Med. Ass.* 9 J. 1, 47. By Surg. Gynec. & Obst.

This is a study of the structure and function of the uterine ligaments based on the comparative

anatomy of guinea pigs Belgian hares cats dogs and monkeys and the application of a surgical shortening of the same for the correction of retroflexed uteri. The sacro uterine ligaments are peritoneal folds containing muscle and fibro elastic tissue. These are intimately related so that it is difficult to decide which should be included in and which excluded from the true ligaments. These structures in the lower animals are not however sacro uterine but recto vaginal. The peritoneum forming the folds is much thicker than the surrounding peritoneum. The hypertrophy is confined to the fibrous layer. Within the stratum fibrosum and therefore distinctly within the peritoneal layer were found a number of small fasciculi of unstriped muscle fibers derived from the myometrium. The muscle fibers pass to the fold attached to the vagina and on backward toward the rectum always within the fibrous layer of the peritoneum. This observation is thought to be new and it is suggested that this muscle be called the true recto uterine muscle. This arrangement is not only found in lower animals but in the human female but here the structures are not recto-vaginal but sacrouterine. The fibro-elastic tissue is contained within the parametrium just beneath the plica sacro-uterine. It is a condensation zone of the fascia endopelvina. The course of the fibres is from the cervix toward the presacral fascia. This is the sacro uterine ligament which may be considered the fibro elastic suspension of the uterus. With these ligaments are intermingled muscle fibres derived from the uterus. When these latter contract they pull on the sacro uterine ligament i.e. the fibro elastic network and raise the uterus. It should be termed the levator uteri muscle to distinguish it from the recto uterine muscle mentioned above. In studying the course of the fibro elastic network within the peritoneal fold it was found that a distinct mass of fibers ran from the anterior two thirds of the sacro uterine fold down to the vault of the vagina. The function of these fibers is to sustain the vault like character of the posterior and lateral fornices.

Conclusions The true sacro-uterine ligament is quite distinct from the peritoneal folds. In function it is inseparably connected with the peritoneal folds and the muscle fasciculi. The musculo fibrous character of the peritoneal folds renders them chiefly supporting. The fibro elastic structures preserve the normal position of the uterus and vaginal vault. The levator uteri muscle raises the uterus in response to reflex stimuli. The surgical adaptability of these structures is assured by their accessibility by their ligamentous character and by their lifting the cervix on being shortened. The operation is performed by exposing the insertions of the ligaments by a circular incision around the cervix. The ligaments are isolated from the surrounding structures by blunt dissection. The shortening is performed by doubling the ligaments or by sewing them to each other or by separating them from their attachment and sewing them to a new point.

H. VAY SCHWARTZ

EXTERNAL GENITALIA

Vogel F. Traumatic Rupture of Vagina with Prolapse of the Small Intestines (Traumatische Scheidenruptur mit Dünndarmvorfall). *München med Wchnsch*, 1913, 12, 1396.
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

The patient 68 years old had had a prolapse since the first labor which finally increased to the size of two fists.

She suffered a severe injury to the prolapse which was followed by a protrusion of the bowels causing severe pain. The patient wrapped the bowels in pieces of paper which she found lying about. When an examination was made an hour later the patient was in a state of shock, the pulse was 115, the abdominal wall retracted and a prolapse the size of two fists was found studded with decubital ulcers. On the posterior surface of the prolapse a laceration 4 cm long was seen from which a mass of ileum protruded which was the size of a man's head. The adherent pieces of paper were removed by normal saline irrigation. The bowel was replaced without pain and without anesthesia and with the patient in the knee-elbow position. The uterus and adnexa also were replaced. The true pelvis was drained and the vagina tamponed. A profuse evacuation of the bowel occurred during the following night. Besides tympany nausea vomiting on the fourth day and fever up to 101 F. no other signs of peritoneal irritation occurred. The rupture healed within four weeks.

POTVICK.

Ludwig F. Uretero-Vesico Vaginal Fistula After a Criminal Abortion (Uret rblasenscheidenfistel nach kriminellen Abort). *Zisch f urol Chir* 1913, 1, 459.
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

The author describes a uretero vesico vaginal fistula caused by a bougie passed violently into the vagina several times for the purpose of producing an abortion. A small vesico vaginal fistula was produced and likewise one from the ureter to the bladder which was demonstrated cystoscopically. The vesico vaginal fistula was closed by an abdominal operation with satisfactory results for three months, but as a result of trauma dribbling of urine recommenced at that time. Examination showed that there was no longer a vesico vaginal fistula but as a result of a paravaginal abscess communication had been established between the right ureter and the vagina which necessitated a nephrectomy.

WEINKEL.

Matti sohn. Prognosis of Infantile Gonorrhoeal Vulvovaginitis (Die Prognose der Vulvovaginitis gonorrhoeica infantum). *Arch f Dermat u Syph* 1913, 1, 87.
By Zentralbl f d ges Gynäk Geburtsh s d Grenzgeb

Matrissohn advocates an active treatment in infantile gonorrhoeal vulvovaginitis. The duration

INTERNATIONAL ABSTRACT OF SURGERY

of the disease varied from 95 days to almost 12 months in his cases. Besides the vagina and vulva the urethra was also treated without any regard to the finding of gonococci. The cervix however was never treated. In acute infections absolute rest in bed and cold applications was used for the first two weeks then irrigations with a 1 per cent ichthargan $\frac{1}{4}$ to 1 per cent protargol or a 2 per cent ichthargan are used. As soon as the discharge becomes serous and examination of it gives negative findings, irrigations with silver chloride or alum in weak solutions, are alternately used. The author re-examined 31 former patients some as late as five years after the treatment. In 13 cases a profuse secretion was present and in 8 or 26 per cent gonococci were again found. The results obtained are better than those in adult women. An ascending infection was never seen. The author inclines to the opinion of Cohen-Bruchs that a resistance to the advance of the gonococci is furnished before puberty by the firmly closed external os uteri. The prognosis therefore is more favorable in infants and girls than in menstruating women on account of the limitation of infection to the lower genital tract. Hottel

Puppel, E.: Dry Treatment of Leucorrhoea (D. Trockenbehandlung des Fluor albus). *Parische d. Med.* 9: 1911 714.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The dry treatment of leucorrhoea consists in the use of yeast or bolus or a combination of both termed xerax. A milk glass speculum is inserted into the vagina, the latter wiped clean and the powder blown in by a powder blower known as a siccator. The use of this instrument should not be trusted to the patient as has been done with the irrigator. A minute description of the treatment of leucorrhoea in virgins of acute and chronic gonorrhoea and of chronic pelvic infections is given. Von Miltzke

Thoma, F.: The Etiology of Genital Atresia (Zur Ätiologie der Gynastresie). *Monsatsh. f. G. Geburtsh. u. Gynäk.* 9: 1911 1.
By Zentralbl. f. d. ges. G. ak. u. Geburtsh. d. Grenzgeb.

Thoma investigated the formation of vaginal atresias based on the studies of Felix concerning the development of the female genital organs. He opposes Nagel's opinion on causation of most of the theory of the acquired causation as follows. All genital atresias are acquired in which (1) the history shows a vulvovaginal inflammation (2) which shows the result of such inflammation in the form of the associated irregularities in the form of the os or (3) which show retention of secretion. All these cases are certainly congenital which are recognized soon after birth by the symptoms of retention of secretion. In addition those cases are congenital which show anomalies of development other than vaginal atresia as for instance defect

ive development of the vestibule unusual breadth of the urethral meatus malformations of the uterus etc., provided that none of the first mentioned points are present. Other cases of vaginal atresia for which the above mentioned factors do not hold good cannot be etiologically classified at present but it must be accepted that in the great majority of cases they also are congenital. Regarding the origin of hematosalpinx Thoma again disagrees with Felix. According to the latter the cause of hematosalpinx accompanying vaginal atresia is always some infection usually the same one which causes the atresia. According to Thoma the absorptive power of the pelvic peritoneum is decreased by the collection of blood in the genital organs the peritoneum being kept in a condition of chronic irritation by the repeated intermittent entrance of adhesions. Infection by continuity from neighboring organs by ascent or by way of the blood or lymph vessels is rarely a causative factor. H. C.

MISCELLANEOUS

Gleitz, A.: Chemical and Physiological Properties of Extracts from Organs, Determined by Experiments with Extracts from the Uterus, Ovaries, Placenta and Foetus (Über die chemische und physiologische Eigenschaften der Organextrakte und Grund von Versuchen über F. irkte am Uterus, Ovarium, Placenta und Foetus). *Arch. f. d. ges. Physiol.* 19: 1911 362.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

While normal blood coagulates after six to seven minutes, organic extracts from the uterus placenta and ovum bring about coagulation in a few seconds even when they are obtained 4 hours after the death of the animal. The cause of this coagulation is thrombokinase which together with vasodilatin is found in the juices of the organs. If the coagulation is removed by keeping the juices for a long time at room temperature or in the thermostat the coagulation of the blood takes place more quickly. Extracts from the same organs prepared with hydrochloric acid show beyond question the presence of vasodilatin as shown by experiments on dogs. By the use of methyl alcohol vasodilatin can be obtained from extracts of the uterus ovary placenta and foetus. The toxicity of the organic extracts is shown in two ways. First extensive coagulation of blood is caused by the action of thrombokinase and the lack of vasodilatin and second the vasodilatin causes death by reducing the blood pressure through slowing of the circulation. Stroz

Griffe, G. W.: Some Newer Methods of Reducing the Mortality of Operations on the Female Organs. *Am. J. Surg. Gynec. & Obst.* 9: 1911 90.

The reclamation of a patient handicapped by hypertension or by post-operation has been and is on

the most cogent surgical problems. Mortality rates would be high were they based only on operations on patients with hypertension or hypotension the result of infection or organic diseases. Crile believes that even these patients may be operated on successfully not only without fatal end results but without the familiar train of disastrous sequelae. If operations on handicapped patients can be postponed safely the underlying causes of the hypertension or hypotension may often be successfully combated by physiological rest, diet and special therapeutic measures and the patient put in a condition in which operation may be safely attempted.

Our problem is (1) to discover what may be the special risks when operations cannot be postponed and (2) to evolve means by which these risks may be obviated or minimized. The natural sequelae in hypertension cases are embolism, thrombosis, renal insufficiency, angina, pneumonia and cardiac failure due to psychic as well as physical strains. The seat of danger must therefore be found at the final point of meeting of both psychic and physical impressions—that is in the brain tissue. If no traumatic impulse could reach the brain and if all emotional stimuli connected with the operation could be removed or reduced to a minimum then the dangers of operation would be only those which would result from the local injury inflicted. Brain cell exhaustion and the disastrous effect of the presence in the body of increased amounts of emerging products of internal secretion would be prevented. This is brought about by Crile's method of anoci-association which cuts off all noxious or nocuous associations from the brain. The procedure includes (1) The lessening of the pre-operative psychic strain by the administration of sedating drugs; (2) the administration of a general inhalation anesthetic to obviate harmful impressions during the course of the operation; (3) the progressive use of a local anesthetic to prevent passage to the brain of traumatic stimuli from the field of operation; and (4) the use of a local anesthetic of lasting effect that the tissues may be kept relaxed and that painful after-effects may be eliminated or minimized.

Patients with hypotension have brain cells already weakened by the anemic condition. The definite and efficient remedy for the condition is direct transfusion of blood which may be done several days before just before during or immediately after the operation. Otherwise the technique is the same as for patients with hypertension.

The anesthetic should receive more careful consideration. Crile does not use ether on account of certain disadvantages enumerated but makes nitrous oxide the anesthetic of choice because it is devoid of harmful after results and serves as a measurable protection against shock.

The technique in abdominal operations follows. An hour or so before operation $\frac{1}{6}$ grain of morphine and $\frac{1}{30}$ gr. of scopolamine is given hypodermically to produce sedation and quiet. After the nitrous

oxide anesthesia is completed the division of tissues is preceded by nerve blocking by means of infiltration with 1-400 solution of novocaine. Each division of tissue in the course of operation is preceded by the injection of the local anesthetic. After incision of the peritoneum the latter is injected with a 0.5 per cent solution of quinine and urea hydrochloride. This infiltration minimizes post-operative wound pain and post-operative gas pain. In the absence of cancer or acute infections the meso-appendix, the base of the gall bladder, the uterus, the mesentery and any portion of the peritoneum may be blocked with quinine and urea hydrochloride.

In performing a hysterectomy the broad and round ligaments are infiltrated with novocaine before division and again before the wound is closed the stumps may be completely infiltrated with quinine and urea hydrochloride. Novocaine infiltration of stomach and intestines is not necessary on account of absence of nociceptors. The results are that no matter how extensive the operation or how weak the patient or what part is involved if anoci technique is perfectly carried out the pulse rate at the end of the operation is the same as at the beginning. The post-operative rise of temperature, the acceleration of the pulse, the pain, the nausea, the distention are minimized or wholly prevented. In conclusion the effect of anoci operation on the morbidity and mortality are given. In 729 abdominal sections a mortality of 1.7 per cent was found and in 2000 operations including every risk in general surgical practice the mortality has been 0.8 per cent.

HARRY SCHMITZ

Albeck. Deranged Function of the Female Bladder (Untersuchungen über der Funktion der weiblichen Urinblase). *Versammlung d. Nord. sk. Læger i Kopenh.* 1913.

By Zentralbibl. f. d. Ges. Gynäk. u. G. burtsh. s. d. Grenzgeb.

Albeck examined 250 gynecological patients as to the action of the bladder and also made bacteriological examination of the urine. In 150 of these patients, that is more than half of them, there was residual urine. Of the 120 without residual urine 16 had bacteria in the urine, of the 130 with residual urine 12 had pyuria and 64 had bacteria in the urine. The influence of residual urine in urinary infection is therefore important. Residual urine is found very frequently in gynecological diseases. Defective function of the female bladder has heretofore been attributed to obstruction of the outlet, but Albeck shows that the explanation is generally to be found in the bladder itself, the obstruction being due to displacements caused by abnormal position of the genital organs, displacement by tumors, formation of adhesions between the bladder wall and the genitalia or in atony of the bladder wall from sepsis or on account of operations in which vessels or nerves were injured or from hyperdistention of the bladder wall which frequently occurs during the puerperium. S. A. GARNKELSTOFT.

of the disease varied from 95 days to almost 11 months in his cases. Devid states the vagina and vulva the urethra was also treated without any regard to the finding of gonococci. The cervix however was never treated. In acute infections absolute rest in bed and cold applications are used for the first two weeks then irrigations with 2 per cent albugin 1/4 to 1 per cent protargol, or 0.2 per cent ichthargan are used. As soon as the discharge becomes serous and examination of it gives negative findings irrigations with silver albumin preparations and astringent such as zinc chloride or alum in weak solution, are alternately used. The author re-examined 31 former patients some as late as five years after the treatment. In 13 cases a profuse secretion was present and in 8 or 26 per cent, gonococci were again found. The results obtained are better than those in adult women. In ascending infection was never seen. The author inclines to the opinion of Cohen Brachs that a resistance to the advance of the gonococci is furnished before puberty by the firmly closed external os uteri. The prognosis therefore is more favorable in infants and girls than in menstruating women on account of the limitation of infection to the lower genital tract. Holatz

Puppel F. Dry Treatment of Leucorrhoea (Die trockene Behandlung des Fluor albus). *Fortschr d Med* 1913 222 714.
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The dry treatment of leucorrhoea consists in the use of yeast or bolus or a combination of both termed scervae. A milk glass speculum is inserted into the vagina the latter wiped clean and the powder blown in by a powder blower known as a vibrator. The use of this instrument should not be trusted to the patient a has been done with the irrigator. A minute description of the treatment of leucorrhoea in 1 signs of acute and chronic gonorrhoea and of chronic pelvic infection is given.
Von Murren

Thomä, P. The Etiology of Genital Atresia (Zur Ätiologie der Gynastresen). *Monatsh f G Geburtsh u Gynäk* 91 2 1.
By Zentralbl f d ges Gynäk u Geburtsh u d Grenzgeb

Thomä investigated the formation of vaginal atresia based on the studies of Felix concerning the development of the female genital organ. He opposes Nagel's opinion on this subject and states a theory of the acquired atresia of most of the genital atresias, and concludes as follows: All vaginal atresia is aquired in which (1) the history shows a vulvovaginitis inflammation (2) which shows the result of such inflammation scars frequently associated with irregularities in the form of the os uteri or (3) which shows retention of secretion. All these cases are clinically congenital which are recognized soon after birth by the symptoms of retention of secretion. In addition those cases are congenital which show anomalies of development other than vaginal atresia. For instance development

of the vestibule unusual breadth of the urethral meatus malformations of the uterus, etc. provided that none of the first mentioned points are present. Other cases of vaginal atresia for which the above mentioned factors do not hold good cannot be etiologically classified at present but it must be accepted that in the great majority of cases they also are congenital. Regarding the origin of hematosalpinx Thomä again disagrees with Felix. According to the latter the cause of hematosalpinx accompanying vaginal atresia is always some infection usually the same one which causes the atresia. According to Thomä the absorptive power of the pelvic peritoneum is decreased by the collection of blood in the genital organs the peritoneum being kept in a condition of chronic irritation by the repeated intermittent entrance of menstrual blood which leads to the formation of adhesions.

Infection by continuity from neighboring organs by ascent or by way of the blood or lymph vessels is rarely a causative factor. Hirsch

MISCELLANEOUS

Glaize A. Chemical and Physiological Properties of Extracts from Organ Determined by Experiments with Extracts from the Uterus Ovaries Placenta and Fetus (Über einige chemische und physiologische Eigenschaften der Organextrakte auf Grund von Versuchen über Extrakte von Uterus, Ovarium, Placenta und Fetus). *Arch f d ges Physiol* 913 24, 25.
By Zentralbl f d ges Gynäk u Geburtsh u d Grenzgeb

While normal blood coagulates after six to seven minutes organic extracts from the uterus placenta and ovum bring about coagulation in a few seconds, even when they are obtained 24 hours after the death of the animal. The cause of this coagulation is thrombokinase which together with vasodilatin is found in the juices of the organ. If the vasodilatin is removed by keeping the juices for a long time at room temperature in the thermostat the coagulation of the blood takes place more quickly. Extract from the same organ prepared with hydrochloric acid show beyond question the presence of vasodilatin as shown by experiment on dogs. By the use of methyl alcohol vasodilatin can be obtained from extract of the uterus ovary placenta and fetus. The toxicity of the organ extracts are shown in two ways: First extensive coagulation of blood caused by the action of thrombokinase and the lack of vasodilatin and second the vasodilatin causes death by reducing the blood pressure to zero through slowing of the circulation. Bröck

Grille G. Some Newer Methods of Reducing the Mortality of Operations on the Pelvic Organs. *J Am M A* 913 32, 33.
By Surg Gynec & Obst

The reclamation of a patient handicapped by hypertension or hypotension has been and is one of

extirpation of the tube with a mortality of 11.5 per cent and 60 cases of evacuation of the hematoma through the posterior vaginal vault with a mortality of 3 per cent. An unpleasant complication of simple drainage is post-operative hemorrhage. In 4 cases a second laparotomy had to be performed for secondary hemorrhage in 2 immediately after evacuation of the hematoma and in 2 a week later.

BRAUDE

Nagel W. Eclampsia (Über Eklampsie). *B. I. klin. H. 1. schr.* 1913, 1, 97.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

In kidney disease during pregnancy Nagel recommends milk diet and diuresis as prophylactic measures. After the onset of eclampsia he advises the Stroganoff method of treatment which he describes in detail. In 650 cases treated by this method he had a maternal mortality of only 8 per cent and a fetal mortality of 21 per cent.

HOFFMANN

Schmidt O.: A Contribution to the Study of Eclampsia Based on Ninety Eight Cases (Beitrag zur Eklampsiefrage auf Grund von 98 Fällen). *Ztschr. f. Geb. u. G.* 1913, 4, 3. 1914, 4, 3.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

At the gynecologic clinic in Bremen from 1907 to 1910 the eclampsia treatment has consisted in immediate delivery by which the author was able to reduce the previous mortality of 38.33 per cent from the expectant treatment to 23.53 per cent.

Since September 1910 38 cases have been treated exactly according to Stroganoff's method. Of these cases 10 died or 26.31 per cent of the 23 cases of spontaneous deliveries only 3 or 13.04 per cent and of the 15 cases delivered by operative procedures 7 or 46.66 per cent. Among the latter was a case of very severe eclampsia delivered by cesarean section. Most of the cases treated by Schmidt had had one or more attacks of convulsions outside of the clinic. One had been unconscious all night and died in spite of the Stroganoff treatment and immediate delivery. Among the patients who recovered there were a number who were first cured of the attacks by the Stroganoff method and who 3 to 7 days later were delivered spontaneously without the attacks recurring.

The author is of the opinion that the Stroganoff method of treatment should always be carried out in a hospital as only there can all details be strictly adhered to. In combination with Zweifel's enucleation a still greater improvement in the results may be obtained. The author does not recognize weather as an etiological factor in eclampsia.

NEAES

Rohrbach W. Statistics of One Hundred and Fifty Eight Cases of Eclampsia and Their Treatment (Statistik und Kritik über 158 Eklampsiefälle und deren Behandlung). *Ztschr. f. Geburtsh. u. Gynäk.* 1913, 1, 63.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The report comprises the time from April 1900 to December 1912 with 11,005 labors. Eclampsia

occurred in 1 case in 70 or 1.43 per cent. One hundred and twenty-eight cases occurred in primiparae: 11 in II parae and the remainder in III and multiparae. The disease occurred most often during the months of June and August 22 cases each and least often during December and February 4 and 7 cases. The average age of the primiparae was 22.6 years of the II parae 23.3 years, and of the multiparae 32 years. Fifty-five primiparae were under 20 years old and 46 primiparae under 25 years. The average age of the primiparae is therefore not so high that a preference of the disease for old primiparae could be deduced from it. Twin pregnancies occurred in 7 cases 4.43 per cent. 3 of the twin cases died. The eclampsia appeared during pregnancy 38 times during labor 84 times and during the puerperium 36 times. From April 1900 to April 1906 71 cases of eclampsia were observed with 30 deaths 42.25 per cent total mortality. Of the 57 eclamptic patients 49 were delivered operatively with a mortality of 23.4693 per cent. Vaginal cesarean section was done four times with three deaths abdominal cesarean section five times with four deaths forceps delivery 25 times with 10 deaths, version twice with one death perforation 13 times with five deaths.

Preparatory measures consisted in the use of the Bossi dilator ten times in the use of the metrecruryntr nine times, incision of the cervix as nine times. Seventy-two viable children were obtained 6 of them being twins. The total mortality was 21.2116 per cent. Fifty children were delivered by surgical termination of the eclampsia during pregnancy with a death rate of 20.40 per cent.

From 1906 to 1912 87 cases of eclampsia occurred with 14 deaths 16.09 per cent. Of these 56 were delivered surgically with 10 deaths, 17.85 per cent. Vaginal cesarean section was performed 22 times with six deaths extrapentoneal cesarean section once with no death forceps extraction 26 times with two deaths version 5 times with one death. Preparatory steps were the use of the metrecruryntr 4 times incision of the cervix 15 times. The viable children numbered 82 (four times twins), with 13 deaths 14.63 per cent. Surgically delivered eclampsia during pregnancy gave 52 children with 10 deaths 19.23 per cent. The maternal death rate decreased from 42.25 per cent to 16.09 per cent and the infant mortality from 20.16 per cent to 14.63 per cent with immediate rapid delivery. The author confirms the opinion of Freund that the early and rapid emptying of the uterus influences favorably not only the attacks but also the termination of the disease. The quickest possible removal of the fetus and placenta should be the rule also if the child is dead. Stroganoff's treatment has not yet been adopted nor Sellheim's breast amputation nor Zangemeister's trephining and removal of the uterus. A good functional result was obtained in two of the three cases of decapsulation of the kidneys. Hydrotherapy has been entirely abandoned. Chloral and morphine are used very freely. Chloroform narcosis has been entirely rejected. Oxygen inhalations may

be of value. Experiments with injections of the normal serum of pregnant women did not show any apparent success. The results with hirudin injections were variable. Venesection is often used. The author prefers removing 400-500 ccm at one time rather than smaller amounts repeated at intervals. **HARR**

Landsberg, E.: Examination of Urine and Blood in Eclampsia, in regard to the Distribution of Nitrogen Compounds and the Contents of Fibrinogen and Residual Nitrogenous Substances; a Contribution to the Question of the Importance of Hepatic Function and Quantity of Fibrinogen in Disturbances of Pregnancy (Untersuchungen von Harn und Blut bei Eklampsien bezüglich der Verteilung der Stickstoffsubstanzen und des Gehaltes an Fibrinogen und Reststickstoff. Ein Beitrag zur Frage der Bedeutung der Leberfunktion und Fibrinogenmenge für die Schwangerschaftsstörungen). *Zeitschr. f. Geburtsh. u. Gynäk.* 1915, LXIII, 234.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäk.

In most eclampsia there is an irregular increase in the amount of ammonia and amino-acid nitrogen in the urine while the urea is diminished. The acidity is increased to varying degrees. The differences in percentage of the nitrogen contents from the normal do not account for the very evident disturbance of the liver. They have no specific relation to the production of eclampsia and are only symptomatic. The increase in ammonia is the result of an increased formation of acid in the system. The amino-acids are usually but not always increased. A change to be attributed in conjunction with other findings, to the diminution of oxygen and decomposition of albumin. Urea is diminished because ammonia is increased. To this must be added the fact that urea is excreted with difficulty by the damaged kidney. The increase in residual nitrogen frequently observed in the eclamptic is the result of the renal insufficiency usually found. The amount of fibrinogen is usually higher than in the healthy pregnant parturient or puerperal woman. An increase in fibrinogen also occurs under entirely normal conditions; this symptom therefore is only an accessory sign which does not have any injurious effect. **HOLSTE**

Wegner A. Treatment of Eclampsia (Zur Behandlung der Eklampsie). *Msd. Kl. u. Berl.* 1913, 312, 318. By Zentralbl. f. d. ges. Chir. u. Gynäk.

The author discusses the different methods of treatment for eclampsia: conservative active by early delivery, Stroganoff's method with morphine and chloral with avoidance of external irritation and quick but not forcible delivery and Zweifel's method of bleeding and conservative treatment. The choice of method depends on the very variable clinical picture and a prognosis is very difficult at first. The author believes in compromise between operative therapy and the extremely conservative treatment. He gives narcotic according to Stroganoff's principles, removes at least 500 ccm of blood, and if possible delivers under anesthesia. He reports 31 cases with 4 deaths. There were 19 deliveries by signal or abdominal cesarean section (3 deaths), 2 forceps deliveries and one extraction of a breech presentation (death). In conclusion he describes a case of eclampsia without convulsions which was ascertained by post mortem examination. **HARRIS**

Tourneau: The Treatment of Eclampsia (Die Behandlung der Eklampsie). *Fortschr. d. Med.* 1913, XXX, 673.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäk.

The surgical treatment of eclampsia must be considered as a thing of the past. It consisted in rapid delivery by major surgical operation. It has now been replaced by the expectant plan of treatment with the use of narcotics. Stroganoff's procedure is finding more recognition on account of its good results. However, Tourneau believes that blood letting must be added to make the treatment still more effective. He uses venesection in all eclamptic patients even in those recently delivered without waiting for the occurrence of further attacks. He withdraws 500 ccm of blood at the first section. This is followed by Stroganoff's method of administration of morphine and chloral. He uses ether instead of chloroform for narcosis to avoid any injury to the heart. This method also is preferable in private practice outside of a hospital and prevents the loss of time necessary for the transportation of the patient to the hospital. **BAVIA**

Fenton F. Report of a Series of Abdominal Cesarean Sections. *Canad. M. A. J.* 1913, 11, 855. By Surg. Gynec. & Obst.

This is a concise report of a series of twenty-six consecutive operations done by the author during the past four years. Sixteen were done for contracted pelvis, 2 for ante partum hemorrhage with undilated os, and one each for eclampsia, large baby and stenosis of the vagina. Five were second operations on the same patients. All the children were delivered alive but three died in a few days from prematurity. One mother died but it might fairly be claimed that her death was not due to operation.

All the cases were done before rupture of the membranes or before any attempts at vaginal delivery or more than two vaginal examinations had been made and these latter under strict precautions. All operations but one were done in hospital.

The same technique was followed throughout the series and was in its essentials the same as is commonly used in the United States and Canada. The incision was four inches or less, longitudinal, with its center about an inch to the right of the umbilicus. No attempt at hemostasis was made until the child, placenta and membranes were removed. Then the assistant immediately applied his palms firmly to the sides of the uterus and everted the cut surfaces.

This manoeuvre stopped the bleeding obliterated the uterine cavity until firm contractions had set in and also rendered easy the introduction of sutures. In the later cases pituitrin was used with good effect immediately after extraction of the baby. Three tiers of sutures of chromic gut were used in closing the uterus. The author does not rupture the membranes before opening the uterus nor as a rule does he dilate the cervix.

Patients were on full diet by the fourth day stitches out the eighth or ninth and patients out of bed by the twelfth.

Fenton says of the pelvimeter. I am using it mainly as a means of detecting those cases which may have deformed pelvis. As soon as one commences to lay down definite rules for procedure based on any diameter then the pelvimeter's usefulness is in a fair way to be lost. By far the best internal pelvimeter is the head of the child that has to pass through that pelvis. If the head will pass through what difference what contraction exists? If it cannot do so without serious injury the most convincing demonstration that the pelvis is ample for an average child will not assist very much in the delivery. In a badly deformed pelvis it is a simple matter to decide upon a course of action but in the slightly contracted cases it is not so easy. The woman's previous obstetric history is a very important factor but even here and in all primiparae in this class I always feel that labor should be given a fair trial.

The author is sure that ante partum hæmorrhage offers a field for cesarean section. He says. Given a primipara near term with placenta prævia not in labor cervix not readily dilatable the mother's risk can be greatly reduced and the baby's life all but guaranteed by section whereas by other procedures the chances for the child are small and dangers to the mother very considerable.

I. A. BILLARD

Rachmanoff A. N. Thirty Cases of Classical Cesarean Section (30 Fälle von klassischem Kaiserschchnitt). *Wochenschrift* 9 3 21 04.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Among 25 000 labors between 1907 and 1910 there were 30 cases of classical cesarean section. Only 7 of these cases came to the clinic before labor commenced the remaining 23 cases usually only a few hours before the operation was performed. Only 5 of these women were not examined again. In none of the cases was there sufficient time for a bath and an enema. Two cases which entered with sepsis had been examined internally a number of times before admission and in bad uronrungs. In these cases the liquor had escaped in two there its presence was doubtful. Among the 30 cases there were 11 primiparae and 19 multiparae. Of the mothers 25 remained alive and all the children lived. Only in two cases was there any fever after the operation. In 28 cases resection of the tubes was performed upon the request of the mother.

The author deems it advisable to perform the tubal resection about 2 cm. away from the uterus as by this method hæmatomas are prevented. The uterus and the abdomen were closed with silk which was removed on the eighth day. A rise of temperature to 38° C. with intact membranes is no contra-indication to the operation. For neglected cases perforation of the child alone is feasible.

KRAYSER

Kayser Classical and Extraperitoneal Cesarean Section Compared (Der Kaiserschchnitt: Was der Zeiten). *Fortsch. d. Med.* 19 3 xxx 8 3.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The extraperitoneal cesarean section is discussed in detail the changed technique and indications for the new method being especially dwelt on. In a comparison between the classical and extraperitoneal operations it is evident that the latter method has a number of advantages and also some disadvantages. Among the latter are the impossibility of performing sterilization which may be urgently necessary and the possibility of producing an infection of the pelvic connective tissue in which condition prognosis is difficult. Moreover the extraperitoneal method endangers the life of the child on account of the difficulty of either manual or forceps extraction. In résumé the author concludes from the short history of the extraperitoneal method that the procedure has not fulfilled what was expected of it. Nevertheless these modern procedures even though not adapted to the private home are distinct advances in our therapeutic measures, especially after the technique has been perfected and above all when further bacteriologic research has cleared up dangers of infection.

WENZER

Hirst B. C.: The Modern Extraperitoneal Cesarean Section with a Description of the Best Technique for Its Performance. *Surg. Gynec. & Obst.* 9 3 xvi 504. By Surg. Gynec. & Obst.

Of the sixteen different techniques for extraperitoneal cesarean section the author prefers that of Veit and Fromme with an original modification which consists in sewing the peritoneal flaps together before opening the uterus. The uterine wound is sewed with a running catgut stitch and the peritoneal flaps brought over it. Nine operations are reported without maternal or fetal mortality.

Tuuskala Indication for Abortion in Hyperemesis and Heart Disease (Über Indikationen zur Unterbrechung der Schwangerschaft bei Hyperemese und Herzkrankheiten). *T. Internat. Med. Cong. Lond.* 19 3 18.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Abortion has often been done for persistent vomiting due to hysteria which would have yielded to suitable treatment by suggestion. Other cases are merely symptoms of other diseases such as gastritis, peritonitis etc. for which appropriate treatment should be given. Genuine hyperemesis gravidarum

eclampsia and Williams recognizes reflex neurotic and toxic forms. On the other hand Winter claims that there is but one type of hyperemesis. This begins as a reflex neurosis and only under certain conditions takes on the picture of an intoxication.

The author attempts to decide whether Williams or Winter's view is more nearly correct. Hyperemesis is a continuous type of vomiting that lasts for weeks or even months and is accompanied by emaciation and weakness without organic cause. If to the above clinical picture are added icterus, delirium, restlessness, nephritis, etc., we are dealing with an entirely different disease, acute yellow atrophy of the liver. The latter occurs in men, women and children, the former only in pregnant women. The author had a case that showed at autopsy fatty degeneration of the liver, icterus and atrophy. The meshwork of the liver failed to show the typical softening so characteristic of acute yellow atrophy. Yellow degenerated foci only were found, none of the red areas in advanced yellow atrophy being present.

The relation of hyperemesis gravidarum to acute yellow atrophy of the liver should be thus interpreted: hyperemesis is present and acute yellow atrophy develops subsequently, the body being too weak to withstand very long and yielding before the atrophic changes have become very far advanced. Both of the diseases are the result of an intoxication for inanition could never bring about such degenerative changes without atrophy nor could it produce the acetone bodies.

Most of the cases of hyperemesis thus end fatally are the result of an intoxication. Hyperemesis and eclampsia are seldom associated with each other for the former occurs early and the latter late in pregnancy. All cases of hyperemesis that develop symptoms of toxicosis do so after the clinical picture of simple hyperemesis is present and autopsy shows that such cases did not begin as a toxicosis, but ended as such. In other words, Winter's theory is the more plausible.

WINTER.

Recasens, S. Modern Conception of the Intoxications of Pregnancy (Moderne Auffassung der Schwangerschafts-Intoxikationen). *Rev. Int. d. M. Méd.* 9, 3, 57.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Grenzgeb.

Disturbances do not occur in pregnancy as long as a balance is preserved between the products of the ovum and the maternal organism. A disturbance of this balance causes those conditions in the early months of pregnancy which are considered as probable signs on account of the frequency of their occurrence. These functional disturbances at the beginning of pregnancy are radically different from the pathologic processes during the last months. The former are signs of immunity, the latter on the contrary true toxæmia. The signs of immunity arise from the entrance of albuminoid substances originating in the ovum into the maternal organism, with a subsequent formation of antibodies; these activate the function of already existing organs such

as the breast, the thyroid glands, parathyroids, adrenals, hypophysis, etc., or temporary structures such as the corpus luteum. These signs of immunity during the early months may go on into toxæmia, if injuries to cell structure are added to the activity of the albumin products derived from the ovum, producing hyperemesis, pernicious anemia, etc. The toxæmia occurring during the latter months of pregnancy arises from a combination of autogenous and heterogenous factors which markedly reduce the power of resistance. The heterogenous poisons are formed principally in the intestinal canal. These albuminous products enter the blood stream and produce injuries to cells, hystolysis in the liver tissue and the endothelium of the vessels. Thus ferments arise from the rapid cell destruction causing coagulation. The obstructing coagula formed in this manner give rise to necrotic processes in the eclamptic liver. The autogenous poisons come from many organs as detached liver cells, products normally excreted by the kidneys, sweat glands, etc., or products of fetal metabolism. The toxæmia of pregnancy is not the result of a specific toxic agent. The success of the prophylactic dietetic treatment supports the theory of the intestinal origin of the eclamptic poison. The result of the treatment with the serum of pregnant women in toxæmia is based on the fact that the protective substances of the body during the last months of pregnancy are diminished and also explains the grave course of general toxic or septic disease in puerperæ.

SCHMIDT.

Sciapiades, E. Myoma and Pregnancy (Myom und Schwangerschaft). *Abhandl. u. d. Geb. u. Geburtsh.* 11, 2, 1913.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

On the basis of 67 cases the author discusses myomas in relation to pregnancy, labor and the puerperium. In regard to pregnancy and myomas the author comes to the conclusion that only a small percentage of the women remain free of all symptoms. 34.07 per cent complain of pain, 29.67 per cent have changes in shape of the abdomen and 28.5 per cent have mechanical symptoms such as difficulty in urination and defecation, dyspnea, etc. Enlargement or softening of the fibroid during pregnancy is not the rule. Change in position of the myoma occurs in tumors of the body and also of the cervix. The congestion of pregnancy frequently causes pathologic changes in the tumor.

Myomas accompany extra uterine pregnancy in 2 per cent of the cases and are undoubtedly the cause of the extra uterine pregnancy in 24 per cent of the cases. Placenta prævia accompanies fibroids in 6 per cent of cases and hemorrhages in 4 to 16 per cent. The rare pedicled form of tumor leads to serious complications (torsion and kinking of the pedicle), further dangers accompany the incarceration of the tumor in the pelvis and it rarely permits of disturbances occurring. In regard to the diagnosis it is most difficult in the

The course of the two may be identical and deserves to be so. The excretion of small amounts of levulose, lactose and pentose of no significant value at any of the various stages during pregnancy is not considered and discarded. The rational treatment consists in placing the patient on a suitable diet early which has resulted in reducing the mortality of mother and child from 50 to 60 per cent practically nothing. The cause makes its appearance about the second to the fourth month during the last three months a more diabetic acid and embryonic acid are frequently excreted and shortly before delivery a coma also which points to a permanent impairment of the kidneys or of the hypophysis. A mild case is not a serious one.

Acidosis especially in the pregnant being prediabetic
 symptom the pregnant being prediabetic
 ketonuria and even a severe degree of acidosis will
 not always cause coma. An increased excretion
 of acetone has frequently been observed during the
 first few months of pregnancy and a gradual recov-
 ery of the same if the patient was placed on a
 suitable diet. Hydranionism about in a pre-
 mature labor can be prevented by careful living.
 The puerperium usually is normal and the acetone
 disappears from the urine within a few days.
 The children are healthy and usually of good weight.
 From my diabetic patient may return to their
 pregnancy but after delivery may return to their
 normal condition those with a hereditary in-
 creased tendency although they are prediabetic
 recovering entirely although they are prediabetic
 on a course of the use of insulin of the nervous
 system. There is therefore no indication to
 terminate a pregnancy on account of diabetes, but
 a diabetic patient should be warned before she
 permitted to enter the marriage. In the
 case of a woman occurs

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Bolaban I A: Treatment of Syphilis in the Pregnant Woman (Zu Syphilistherapie bei Schwangeren) *A b a d geb i g* *dk Kl Prof Radlch St. Peterb 1913* 1 55
By Zentralbl f d ges Gynäk u Geburt h s d Grenzgeb

According to the latest researches the mother of a syphilitic fetus must be diseased or have been diseased. The treatment of the pregnant woman shows good results. In one case of habitual abortion and in another patient who had several times delivered macerated infants no signs of lues existed and the Wassermann was negative. The author treated these women during their last pregnancy with mercury and potassium iodide. Both were delivered of healthy children. A third case was treated with salvarsan. She was a IX para 25 years old whose last 6 pregnancies terminated during the seventh to eighth month with macerated babes. She was in the beginning of pregnancy and had secondary syphilis with a positive Wassermann. Salvarsan 0.45 was injected subcutaneously and after two months another subcutaneous injection of 0.5 salvarsan was given. The Wassermann reaction was negative at the end of pregnancy and a perfectly healthy child was born. A Wassermann made later on the child was negative. **BRALDE**

Pankow: The Frequency and Diagnosis of Cardiac Defects During Pregnancy (Häufigkeit und Bewertung der Herzfehler in der Schwangerschaft) *Dr i k Geslisch f Gynäk Halle 1913* 3 31
By Zentralbl f d ges Gynäk u Geburt h s d Grenzgeb

From material of 5000 maternity cases Pankow investigated cardiac defects during pregnancy. It was found that 40.2 per cent of all women had accidental murmurs and that 2.8 per cent of all women had actual cardiac defects. The diagnosis of accidental murmurs is frequently difficult. The following two points are of interest in the diagnosis:

1. In almost all pregnant women an enlargement of the heart to the left exists even in those without cardiac murmurs but an enlargement to the right can be demonstrated only in those with actual cardiac defects.

2. In actual cardiac defect the murmur is different from the accidental murmur. In the accidental murmurs the first tone is clear followed by a short pause and then the murmur. In actual cardiac defect the first tone is partly overlapped and followed by the murmur which also takes up a good part of the systole. The accidental murmurs mostly are soft blowing murmurs although diastolic murmurs do occur and an accentuation of the second pulmonary tone is not uncommon. They probably originate in the pulmonary artery and are heard most distinctly in the third left intercostal space or over the third rib near the sternum.

In regard to the artificial interruption of pregnancy and its indication the following may be said:

1. If in a pregnant woman suffering from cardiac disease no symptom of cardiac incompetence appears during the pregnancy it is not justifiable to interrupt

the pregnancy as complications in all probability will not occur during labor.

2. If however symptoms of failure of compensation appear during the first half of pregnancy it is clear that the reserve force of the heart is exhausted and pregnancy should be interrupted as the increased amount of work thrown upon the heart in the latter months of pregnancy may lead to a sudden collapse of the heart.

3. If symptoms of failing compensation make their appearance only toward the end of pregnancy and the lesion is a mitral stenosis with marked signs of myocardial degeneration the pregnancy should be interrupted. In cases of mitral incompetence expectant treatment may be used as all signs of insufficiency may disappear under appropriate treatment. If however the signs of failing compensation persist in spite of treatment or if they return immediately after the cessation of treatment it is advisable to interrupt the pregnancy and this is best done by vaginal section. The frequent occurrence of stenosis and insufficiency combined may render the prognosis extremely difficult but it must be based principally upon the degree of stenosis and the condition of the cardiac muscle.

4. If the symptoms of failing compensation make their appearance only at the beginning of labor it is advisable to wait for delivery to be completed or do an extraction when conditions demand it. If the labor is evidently to be a prolonged one and the failure of compensation is extreme operative delivery may be resorted to.

Mayer A: The Relations of Colon Pyelitis to Gestation (Die Beziehungen der Kolpyelitis zur Fortpflanzungstätigkeit) *M hren medisch 1913* 1 479

By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

The author takes the stand that pregnancy is not the actual cause of the pyelitis but only a predisposing factor. According to his view there is an ascending and a descending method of infection the latter being the more common. Frequently colon bacilli migrate to the pelvis of the kidney in functional disturbances of the bowel (appendicitis, stomach diseases, etc.) by way of the lymph stream. In cases of pyelitis during pregnancy premature labor is more common and the children are poorly developed. The symptoms usually recede during the puerperium. On account of the danger of ascending infection internal examinations should not be made during labor except for urgent indications. In differential diagnosis appendicitis, peritonitis, puerperal infection, acute respiratory diseases and uterine hemorrhage must be considered. **WELSH**

Schlager: Pregnancy and Diseases of the Kidneys (Schwangerschaft und Nierenerkrankungen) *Monatsh f Geburtsh Gynäk 1913* 21 27
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

As genuine nephritis cannot always be distinguished from the kidney of pregnancy Schlager pro-

poses to let the indication for induction of premature labor rest on the result of the functional tests of the kidneys. If general systemic symptoms as uremia appear as the result of the damage to the kidney labor must be induced even prematurely. In cardiac hypertension and hypertrophy however this should be required only during the first three months of pregnancy and in the last months only when complications such as retinal changes uremia, etc. appear. Gestation should also be interrupted in nephritic oedema only when other symptoms of a general nature complicate the disease or the oedema does not disappear under dietetic measures. Another aid in judging the condition of the kidney is by the excretion of urine the qualitative determination being far more important than the quantitative. This is obtained by the kidney test meal, consisting of coffee with milk, bread, and sugar mornings and afternoons milk for the second breakfast, clear soup, mashed potatoes and beefsteak for lunch followed by a cup of coffee and gruel for supper. The urine is collected every two hours and its quantity specific gravity and sodium chloride content are determined. The normal urine shows great deviations in amount percentage of sodium chloride, etc. depending on the ingestion of liquids with the different meals. In the nephritic patient such deviations are not encountered the findings being constant and fixed because the reaction following the ingestion of liquids with the meals is markedly delayed on account of the diseased condition of the kidneys. The nephritis if pregnancy tends to continue after pregnancy even when the albumin disappears. As long as the kidney excretions are not normal the patient should not be considered cured and should not be come pregnant. WIERZ

LABOR AND ITS COMPLICATIONS

Christiansi, A. The Use of the Metreurynter in Labor Complicated by Myoma (Hystereuryse bei Myom unter der Geburt). *Zisch f Gynäk* 1913 lxvii 390.
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

Christiansi recommends the use of the metreurynter in cases in which a spontaneous labor cannot be expected on account of an obstruction of the true pelvis by a myoma resulting in weak labor pains. The metreurynter acts first as a physiological stimulant to labor pains secondly in proper cases it may hold back the tumor and third, after some hours it enables the obstetrician to make an exact examination to determine whether a living child can be born whether he must perforate and extract the dead fetus or whether he is compelled to interfere surgically. EISENBERG

Souttar II 3. Calcified Ovarian Fibroma Obstructing Labor. *Proc Roy Soc Med* 1913 vii. Obst & Gynec Sect 235. By Surg Gynec & Obst.

The author reports a case in which a calcified ovarian fibroma impacted in the pelvis obstructed

labor. The patient was delivered by caesarean section and four months later the tumor was removed.

Macroscopic examination showed an oblong tumor partially covered by peritoneum measuring 12 cm by 9.5 cm by 9.5 cm. A normal ovary and a portion of a tube with mesosalpinx was attached to one convexity. The peritoneal surface was covered with small calcareous plates. The tumor was sectioned with a hand saw. The cut surface was homogeneous. It had a groundwork of white oedematous looking fibrous tissue in which innumerable calcareous nodules were embedded. The center of the tumor showed the most fibrous tissue. The weight of the specimen was 4 lb 8 oz.

The microscopic examination showed interlacing bundles and masses of thick tortuous collagen fibers with sparsely scattered spindle-cells between the fibers.

There are no similar cases so far as the author can discover in the literature. C H DAVIS

Sievert, C: Rules for Disinfection During Labor and for the Treatment of Post Partum Haemorrhage with a Report of 42 Cases of Manual Detachment of the Placenta (Lehren für die Disinfection in der Geburtshilfe und für die Behandlung der Nachgeburtsblutungen der Hand von 42 manuellen Placentenlösen). *Deutsche med Wchchr* 1913 xix 1032-1033.
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

The following antiseptics are recommended for obstetrical cases: Trimming of pubic hair, soaping of the external genitalia, cleansing with a 1 per cent soap solution of cresol irrigation with a 1:3000 acid solution of bichloride of mercury. Vaginal irrigation with solution of the acetotartrate of aluminum is used only in suspicious cases. Rubber gloves are worn only during operations lasting for hours.

In forty two cases in which a manual detachment of the placenta was necessary 2 deaths occurred—one on the sixth day of the puerperium from embolism after an attempt at version, and one from sepsis, but the patient had a high fever when admitted to the clinic. An absolute lyafehmie puerperium was attained in 60 per cent. Not a single woman died from hemorrhage amongst 5000 labors. The amount of blood lost is measured also the height and width of the fundus of the uterus. If only 100 gm of blood are expelled into the tray the aorta is compressed for from 0.1 to 15 minutes by Rissmann's compressor. This instrument is so harmless that it should be included in the outfit for midwives. KREBS

Ponick, W. The Results of Artificial Premature Labor in Moderately Contracted Pelves (Die Erfolge der künstlichen Frühgeburten beim engen Becken mittleren Grades). *Zisch f Geburtsh u Gynäk* 1913 lxvii 45.
By Zentralbl f d ges Gynäk Geburtsh d Grenzgeb

Among 200 cases of labor there were 4 cases of contracted pelvis with a true conjugate of not less

than 9 cm. Ponfick never employs premature labor in primiparae but lets the case end spontaneously. During the last six weeks Prochorowik's diet is prescribed. The membranes are kept unruptured as long as possible. No internal examinations are made during labor and if an exploration is necessary it is made through the rectum. Morphine is administered liberally as Ponfick has observed good effects upon the pains. The use of pantopon and scopolamine has been discontinued as they prolong the labor. Sacral anesthesia has also been discontinued as its use is too uncertain. The spontaneous entrance of the head into the pelvis is aided by Walcher's position by the delivery chair and by walking around. As soon as the head enters the pelvis extraction with forceps is performed. If no progress has been made several hours after rupture of the membranes if the foetal heart sounds decrease or if the mother's condition demands interference expression is attempted under anesthesia and eventually version with episiotomy or high forceps with perioration. The result of fourteen trial deliveries of this kind was eleven live children, five spontaneous labors, four forceps deliveries and two versions. Artificial premature labor is induced with a metureuryster between the thirty sixth and thirty ninth week. If after the rupture of the bag the head does not enter the pelvis, immediate version and extraction are performed under anesthesia or expression in the Walcher position. In this manner fifteen women were delivered. Eleven live children were born, nine of whom were discharged living. Of the six dead children, three died of asphyxia during extraction as a result of stricture of the os. Of the mothers only one had fever which reached 39° on four different occasions but ended in recovery. Of the nine children discharged, eight lived.

HUTVEL

Völler A. Shape of Head and Mechanism of Birth (Über Kopfform und Geburtsmechanismus). *Monatsschr. f. Geburt u. Gynäk.* 93, xxxv, 1, 4. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. s. d. Grenzgeb.

The author desires a simpler classification and nomenclature for the presentations, especially the head presentations, for the sake of a better understanding of the relationship of the parts in the different head presentations. Not only does the practical consideration of the difficulty for the student demand a simpler classification but it is needed on purely scientific grounds. He suggests a scheme of classification based on mechanical principles, according to which the designation of the presentation is to be from the lowest point of the head the sub-classification to be determined by the direction of the back. There are 5 head presentations: (1) Posito occipitalis—occipital position; (2) posito verticalis—parietal position; (3) Posito sincipitalis—frontal position; (4) posito frontalis—brow presentation; (5) posito facialis—face presentation. In each of these 5 presentations there is a dorso-anterior and a dorso posterior position.

Here there are 2, 4, 6 or 8 possibilities. Back laterally forward or laterally backward dorso-anterior and dorso posterior right and left transverse position right and left and posterior and anterior primary straight position, pubic dorso anterior position and sacral dorso posterior position. This simple scheme gives 40 presentations. If we consider only complete positions throughout labor there are only two: the dorso-anterior and dorso posterior making only 10 presentations.

All these forms are observed in practice and must therefore be recognized scientifically. He tries to answer the objection that from the standpoint of teaching it is impossible to consider the rare presentations. He holds that these are the very ones that are important for the practitioner to recognize and that therefore they should at least be mentioned in the text books. The comparative study of the mechanism of birth in the different head presentations is very important scientifically and practically.

LISENBACH

Jardine R. The Retraction Ring as a Cause of Obstruction in Labor. *Lancet* Lond. 93, clxxxv, 958. By Surg. Gynec. & Obst.

The author reports a case in which the lower uterine segment was ruptured in an attempt to perform cesarean section in the presence of a retraction ring. He reports two cases where the retraction ring formed in front of the presenting head. Both of these were treated by cesarean section with happy results. When the contraction ring is well formed it cannot be dilated manually and the author believes that in such a case cesarean section is indicated whether the pelvis be contracted or normal.

Jardine also reports two cases where the retraction ring formed above the presenting head. In each case the child was delivered only after a destructive operation. Both mothers recovered, but one developed a pelvic abscess. He believes that where the child is in good condition cesarean section is indicated for this type of case.

He mentions a patient in whom a retraction ring formed with breech presentation. Both mother and child were saved. He believes that retraction ring is a more common complication of labor than is generally supposed.

C. H. DAVIS

Basset R. The Importance of Early Rupture of the Membranes for Labor and the Puerperium (Über die Bedeutung des frühzeitigen Blasenbruchs). *Zschr. f. Geburt u. Gynäk.* 913, lxx, 566. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. s. d. Grenzgeb.

A total of 4143 labors were investigated in 500 of which the sac ruptured when the dilatation of the cervix was from two to three inches. The rupture occurred shortly before or immediately after vaginal examination which determined the degree of dilatation. The results observed are as follows: A shortening of the duration of labor did not occur

The greater number of the primiparae were delivered after two to three hours and the greater number of multiparae after fifteen minutes. The longest duration of labor in a primipara was thirty-eight hours due to placental presentation and extreme rigidity of the external os uteri. In three multiparae the duration of labor was twenty-four hours as a result of weak pains or continuous contraction. Young primiparae and old multiparae are predisposed to an early rupture of the membranes. The latter is also frequently observed in abnormal positions. Prolapse of the cord was noticed in 1 per cent of the cases. This occurred most frequently in transverse positions and deflected head presentations. The extremities presented in five cases. The frequency of surgical intervention was not high and amounted to 5.2 per cent, 3.2 per cent in primiparae and 7.5 per cent in multiparae. Prolapse of the cord was the most frequent indication for surgical interference. Laceration of the cervix took place once. Irregular labor pains, protracted labor and continuous contractions the result of the early rupture of the membranes were observed eight times in multiparae and ten times in primiparae. Post-partum atony was relatively rare and occurred in 4 per cent. The atony was very severe in 4 of the cases. Febrile puerperium was observed in 10 per cent of the cases, 20.3 per cent in multiparae and 10.7 per cent in primiparae. The maternal mortality was 0.1 per cent, 0.6 per cent. The most favorable time for the artificial rupture of the membranes in primiparae is when the cervix is almost completely dilated and in multiparae when the dilatation is about 3 inches.

PUERPERIUM AND ITS COMPLICATIONS

Hirst B. C. Dickinson R. L. and De Lee J. B.
Report of the Committee on the Treatment of
Puerperal Fever. *J. Am. M. A.* 9:31, 1918.
By Surg. Lynce A. Olst.

The report was obtained by sending the following questions to 400 professors and assistant professors of gynecology and obstetrics in the United States and Canada, 200 professors and assistant professors of surgery in the United States, and to 60 professors of obstetrics and gynecology abroad in England, Ireland, Scotland, Germany, France, the Netherlands, Russia, and Italy.

Question 1. Primipara with septic abortion at three months (12 weeks) vs. hemorrhage negligible the ovum is retained. What would you do?

Question 2. Primipara with septic abortion at three months (12 weeks) vs. hemorrhage negligible the fetus is retained. What would you do?

Question 3. Primipara fourth day after full term delivery position of uterine section no hemorrhage retention of uterine contents suspected. What would you do?

Question 4. If you believe in cesarean section when do you do it?

Question 5. What do you do when hemorrhage complicates sepsis?

Question 6. If you believe in trusting to nature when ovarian remnants are retained how long do you wait before operating?

Question 7. Do you try to differentiate between septic and bacteremic states before operating? How do you do it?

Question 8. Do you make any distinction between the treatment of sepsis after abortion and that after full term deliveries?

The answers to these questions are tabulated. The conclusions reached are as follows:

1. The majority clean out the septic uterus at once. A not negligible minority believe that it is safe to trust the expulsion of the infected uterine contents to the powers of nature.

2. In the majority of cases it has been found safe to invade the infected uterus with finger and curette.

3. There are however many cases in which the infection is of such a nature or the resistance of the patient is of so poor a quality that active interference turns the scales against the patient. She cannot stand the inoculation with autogenous vaccines.

4. The experience of the minority has proved that ovarian remnants, even though infected in the uterus do not create such dangerous conditions as we formerly believed demanding instant removal but that it is safe to wait for nature to erect her own barriers against the progress of infection and that supporting measures or mildly stimulating ones, often suffice for a cure.

5. We all feel the need of some method by which it would be possible to distinguish benign from virulent bacteria living in the genitalia but as yet no such method exists. What becomes possible our practice will become more definite. At present one half of the authorities do not try to make the distinction holding it impracticable.

6. After the uterus is once infected it should not be sequestered by finger or curette.

7. Few would permit aseptic douches.

8. The mignoniquet generally used to stop the bleeding in infected cases. Evidently there is not much of damage to the infection and permitting greater absorption.

Zashin A. E. The Significance of Hemolytic Streptococci in the Pathology of the Puerperium (*Die Bedeutung der hämolytischen Streptokokken in der Pathologie des Wochenbetts*). *Arch. f. Gyn. u. Gyn. A.* Prof. Kersch. St. Petersburg 1918.

By Zentralbl. f. Gyn. u. Geburtsh. d. Czar.

The author examined the lochia of puerperal women with impure retention (among which there were 5 cases of placental retention, 1 of placental infection, 1 of placental infection and 1 of placental infection) for hemolytic streptococci according to Schott Müller method in 18 per cent of the cases. The results were present. Autolysis examination normal.

puerperal women pregnant women and gynecological cases for the same organisms. Among 56 normal puerperal women he found the hemolytic streptococci in 21.43 per cent. In 23 pregnant women he found them in the cervix in 17.30 per cent. and in 32 gynecological patients he found them in 21.88 per cent.

An absolute diagnostic significance can therefore not be attached to the hemolytic streptococci. Neither is their presence of any significance for prognosis. The prognosis however is much worse if they are found in the circulating blood. To determine whether coitus favored streptococcal infection he examined the preputial smegma of 30 men with no genital diseases and found hemolytic streptococci in 6 cases. For prophylactic reasons, therefore coitus must be interdicted during the latter months of pregnancy. BRAUDE

Ahlfeld F: Origin of Endogenous Puerperal Infection (Quellen und Wege der puerperalen Selbstinfektion). *Ztsch f Gebn isk u Gynäk* 1913 122:1

By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

The author considers as endogenous all those infections wherein pathogenic germs enter the uterus from the vagina, vulva and external genital organs but not from the examining finger instruments or dressing material. Other possibilities for spontaneous infections are the development of septic endometritis from retention of the placenta or its debris after an uncomplicated labor or abortion, retention of lochia or infection of wounds when accidentally reopened with virulent lochial secretion. Endogenous infection after a preceding gonorrhea results less from the gonococci than from secondary infection with streptococci. Spontaneous infection has been observed in labors in which an interval of days occurs between rupture of the membranes and labor. An epidemic puerperal fever following angina, diphtheria, scarlet fever, etc. might be considered as a metastasis which develops at the place of least resistance, i.e. the abraded uterine mucosa. How ever entrance of the infectious germs through the vagina is possible.

Finally infections may follow labor due to a reactivation of old parametritic pus infections as ovarian abscess, pyosalpinx or appendicitis. In the vagina of almost all women streptococci and other pathogenic bacteria are found. It is at present too difficult to give a collective account of all the possibilities as to the origin of puerperal fever based on the bacteriology of endogenous infections. It is also impossible to determine a fixed line of demarcation between endogenous and exogenous or between spontaneous and imported infections. Since all examinations have been dispensed with in hospital puerperal fever has not disappeared nor has the introduction of hot water, alcohol disinfection of the hand and thorough cleansing of the genitalia caused it to cease. The greater number of cases of uncertain origin are

probably best explained as due to the introduction of virulent bacteria into the genitalia either by the patient's own hands or by her clothing and bed linen or by cleansing after defecation. Contrary to the fear of Bumm that by teaching the theory of endogenous infection a detrimental fatalism would develop inducing negligence the author explains that with the recognition of this teaching far greater demands are placed on the physician and nurse than formerly. They not only perform disinfection of the hands and of the patient more exactly but attempt to do away with all the conditions which might lead to endogenous infection. FRIEDBERG

Jordan J F: Vaccine Treatment in Cases of Puerperal Fever *J Cl Research* 1913 vi 9
By Surg. Gynec. & Obst.

The author states that in a study of twenty-one cases of puerperal fever examinations from the uterine discharge demonstrated a streptococcus growth in seventeen which was quite distinct from other streptococci. Also that in secondary pus, pleuritic fluid or sputum the growth was identical with that found in the uterine discharge. He suggests that this might be called streptococcus puerperalis. It grows freely upon agar in opaque colonies and is much larger than other streptococci. It produces acid and clot in milk acid in lactose, glucose, etc. but no change in raffinose, mannite and inulin. These reactions differ from the streptococcus faecalis in mannite and from streptococcus pyogenes in the production of clot in milk.

As the streptococcus puerperalis is only found in puerperal cases it is unjust to blame the physician or midwife in endemic cases as the probable source of infection is in the intestine. Perineal and rectal operations not followed by infection are due to the fact that the surgeon insures drainage where there is a possibility of discharge. After confinement with imperfect involution the cavity of the uterus furnishes a perfect culture medium, the separating bridge of the perineum is frequently absent and the passage of the streptococcus from the rectum to the uterus is actually facilitated.

In conclusion the author makes a strong plea for bacteriological diagnosis and vaccine treatment. After the manual examination if the surgeon is not satisfied that the uterus is clear he can pass a blunt curette into the cavity run it over the entire inner surface and swab with a piece of wool dipped in a dilute solution of bismuthate of mercury. Finally he inserts iodoform gauze for a uterine drain. This should be followed by an injection of vaccine containing 25 or 30 million of the streptococcus puerperalis. He believes that the best results are obtained when an uterine vaccine has been prepared by a skilled bacteriologist. He does not claim that when the patient has been profoundly infected by the toxins this treatment will bring about a recovery but he does ask that she should be given a chance to create an immunity before she has lost her individual resistance. ROBERT T. CHILDS, F.

Saenger II: Sudden Death Occurring Shortly after Delivery Without Any Apparent Cause; and Report of a Case of Acute Pancreatic Necrosis (Über plötzliche klinisch räthselhafte Todesursachen während oder kurz nach der Geburt unter Zugrundelegung eines Falles von akuter Pankreasnekrose) München med. Wchnsch. 1913 ix 133

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. s. d. Grenzgeb.

The author reports several cases of sudden death occurring in or shortly after labor where a careful autopsy did not reveal the cause. He discusses a case of acute pancreatic necrosis occurring shortly after labor and heretofore not observed.

The patient was a perfectly healthy 31 para 26 years old who 15 minutes after a normal, spontaneous delivery was suddenly seized with severe vomiting, became unconscious and died. The clinical diagnosis of pulmonary embolism or eclampsia without convulsions was made. The autopsy, however, revealed an enlarged pancreas, the second half and especially the tail being hemorrhagic with no softening of the pancreatic tissue. The pancreatic duct was normal. The fat surrounding the pancreas was sharply differentiated. Microscopic examination of the middle part and of the tail showed sharply defined round and wedge shaped necrotic areas. In these areas intra acinous fat cells were found. Microscopic examination of the liver showed in addition to numerous fresh necrotic areas extensive fatty degeneration of the Kupfer star cells.

Etiological factors were the increased predisposition adiposity and alcoholism and above all, the trauma incident to labor. The rapid labor and the consequent change in intra abdominal pressure resulted in rupture of the pancreas. The changes in the liver were considered as due to the toxic action of the pancreatic juice in the blood.

Bruxel

MISCELLANEOUS

Kalmanowitch F. Serious Anomalies in the Extremities of a New Born Child, as a Result of Pregnancy in a Uterus Bicornis Unicollis (Schwere Veränderungen der Extremitäten eines Neugeborenen als Folge der Geburt bei Uterus bicornis unicollis) Gynäk. Rundsch. 913 vi 312

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. s. d. Grenzgeb.

The anomalies were as follows. Both thighs were flexed firmly against the abdomen. The contracture of the hip joint was so marked that the legs could be extended only slightly from the abdomen. In the knee joints extreme flexion also existed, but the contracture here was not so firm. Both feet were in equinovarus position. Over both external malleoli pressure marks were present. Both upper extremities were freely movable but the right hand was in a moderate position of hyperpronation with marked contracture. Furthermore a micrognathia was present so that the alveolar process of the lower jaw was posterior to that of the upper jaw. It was a breech presentation. Examination of

the woman post partum revealed the fact that she had a uterus bicornis unicollis. The head developed in the large right horn of the uterus and the breech in the much smaller left horn.

From this fact the author concludes that the anomaly of the uterus was responsible for the changes in the extremities. Wiesbaden

Heyn A.: Tumor of the Sacrum (Steintumor)

Ztsch. f. Geburtsh. Gynäk. 913 lxxix, 466

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. s. d. Grenzgeb.

The case was that of a 31 para, 23 years old. In the second half of pregnancy she complained of severe pains in the abdomen and in the back. Edema was present in the abdominal wall and the legs, and the urine contained albumin. Rest in bed and diet resulted in the disappearance of the albumin and edema but both returned later with increasing pain. Headache was severe. The condition became aggravated and increased doses of narcotics were necessary. The abdomen was uniformly distended. Careful examination excluded twins but made out a head down in the pelvis with profuse liquor amni. In the fundus the breech was palpable with another mass alongside of it. The small parts were not palpable. A diagnosis of hydramnion single pregnancy and perhaps malformation was made.

Spontaneous labor came on during the seventh month of pregnancy. When the cervix was obliterated the membranes were ruptured and eight liters of liquor amni escaped clear slightly yellow and without meconium. The small head was delivered spontaneously and the body also as far as the abdomen. Then by severe traction the breech was brought to the vulva. The short umbilical cord having ceased pulsating was tied and cut. Labor did not proceed further as a large tumor in the sacral region prevented delivery. Both legs were brought down, and in spite of traction from below and pressure from above no progress was made. During the attempt to puncture the cystic tumor it burst and a large quantity of dark, bloody fluid mixed with necrotic shreds, was evacuated. The mass then descended and was finally delivered, the placenta following spontaneously. During the puerperium the edema and anasarca gradually receded and on the tenth day the patient was discharged. At that time there was only 25 per cent albumin in her urine.

The tumor was the size of a man's head and originated from the region between the sacrum and the anus. Its upper border was on a level with the iliac crest. Besides the cysts the tumor contained a number of nodules varying in size from that of a hazel nut to that of a fist and of moderate consistency. It was a complete mixed tumor embryonic (tumor of the Stolper's type) characterized by absolute irregularity in the arrangement of the tissues. The cells were of no definite type. The autopsy showed no other maldevelopment except that the sacrum presented a dorsal curvature.

Measurements on the skeleton were correct within $\frac{1}{2}$ millimeter on the living puerperal woman within 1 millimeter when compared with instrumental pelvimetry. It is easier to obtain accurate measurements during the early part of pregnancy since in the latter months good pictures are hard to make owing to the formation of secondary rays. It is advisable therefore where a contracted pelvis is suspected to send such cases to the clinic early even before pregnancy has commenced. In those cases in which caesarean section is to be employed all instrumental means of measuring the pelvic inlet are contra indicated owing to the danger of infection and the time probably is not far distant when we shall demand pelvic measurement taken by the X-ray in all such cases.

Hart D H: On the Duration of the Interval Between Insemination and Parturition. *Edinburgh J* 1913 3 191. By Surg. Gynec. & Obst.

The author sums up his article as follows:

1 The duration of pregnancy in any mammal is not known and by our present means of investigation cannot be ascertained.

2 The initial date for the calculation of labor in the human female should be the first or first day of the last menstruation.

3 Midterm quickening may be used for corroboration but is not reliable owing to mistakes it may be made by the patient.

4 Dates of labor in sufficient numbers plotted out in curves give approximate frequent polygons usually skew.

5 Tessier's one labor curve is the best and is given in 24 hour groups. The greatest number of labors in his few cases occurred between the 149th and 153d days.

6 In cattle Spencer's statistics in 2-day groups give a skew frequency curve. The greatest number of labors occurred between 281 and 289 days (530 out of 764 cases).

7 Tessier's cattle cases give an analogous curve.

8 The date of labor in mammals is therefore arbitrary and not an exact one and the greatest number falls within certain definite days.

9 A long insemination or menstrual labor period does not necessarily mean a prolongation of the duration of pregnancy.

10 The alleged greater size of the fetus in long insemination labor period is not accurately proven and it is not supported by Spencer and Tessier's results.

11 The view given of the cause of the insemination labor or menstrual labor dates is based on the probable date of the meeting of the gametes on each side. The date of labor and of a certain probable duration of pregnancy still is the dark and the above explanation he has given he says must be considered merely a certainty to be expanded in the future. The date of labor can be given as likely to occur within a certain number of days calculated from a definite first point. *Rev. T. G. 124*

Schlimper II and Javel E: Abderhalden's Reaction with Animal Placenta and Serum (Die Abderhalden'sche Reaktion mit Tierplacenta und Tierserum). *Münche med. Wochenschr.* 913 12.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The authors tried Abderhalden's reaction with human and animal serum on the placenta of horses and sheep and in 5 experiments failed to get the reaction more than four times. They come to the following conclusions: (1) In pregnant horses and sheep ferments circulate in the blood which decompose the placenta of the same species. (2) The fetal as well as the maternal part of the placenta of other species is also decomposed by these ferments. (3) The inciting of the formation of ferment by chorionic villi is improbable in horse and sheep placenta on account of anatomical hindrances. (4) Human serum reacts the most vigorously and horse placenta are the most actively decomposed by it. *Bover*

Thomas E: Biology of Colostrum Bodies (Zu Biologie der Colostrumkörperchen). *Ztsch. f. Kinderh.* 913 20.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

The author put colostrum in capillary tubes with emulsions of different kinds of living bacteria. He found that both the polymorphonuclear and mononuclear colostrum cells as well as the granular bodies resembling epithelial cells had decided phagocytic action. This appears to exclude the possibility of an epithelial origin for any colostrum cells, though this has been reaffirmed recently. Both kinds of cells in the colostrum have the same phagocytic power in contrast to those of the blood in which the pure mononuclears have considerably less phagocytic action. *Vorms*

Paramore R H: The Intra Abdominal Pressure in Pregnancy. *Proc. Roy. Soc. Med. & Obst. & Gynec. Sect.* 29. By Surg. Gynec. & Obst.

The author has observed the pressure found in the rectum in pregnant and non pregnant women and believes that that pressure increased considerably in pregnancy. In two cases sufferer from toxemia of pregnancy the figures obtained were considerably increased over normal pressures in pregnancy. The author hopes to demonstrate that this pressure is always much increased in toxemia and has advanced a mechanical theory of toxemia.

During pregnancy the abdominal muscles are continuously stretched and as a result they undergo degeneration regression (Bland's theory) they become atrophied together with the tendon and aponeuroses. The result is flaccidity of the rectum. The weakening of the abdominal wall results in a lower abdominal pressure and subsequent pregnancy. The fetal and children are generally larger in multigravidae than they are in primigravidae support this opinion. It is reasonable to suppose that fetal growth can occur more readily when the pressure about the fetus is at a minimum. *C. H. D.*

GENITO-URINARY SURGERY

KIDNEY AND URETER

Lippens Spontaneous Perirenal Hæmatoma
(L'hém tome périrénale spontanée) *J de chi* 1913
11 By Surg Gynec & Obst

Lippens article is based upon a study of reports of twenty three cases of this rare affection which he has been able to collect from the literature since the condition was first described by Wunderlich in 1836 as Spontaneous Apoplexy of the Capsule of the Kidney

The pathogenesis of the condition is by no means certain Only fourteen of the twenty three collected cases were histologically examined and twelve of them had the lesions of acute nephritis or chronic interstitial nephritis Two cases reported histologically normal organs In the majority of the cases the lesion consisted of a recent large perirenal hæmatoma Sometimes it remained collected under the capsule of the kidney more often it broke through this barrier spread through the tissues and formed a doughy mass extending as high as the diaphragm or into the pelvis and reaching the median line The peritoneum the mesentery the colon the abdominal wall and the scrotum have all been infiltrated in some cases

Lippens is inclined to accept the theory of Wunderlich namely that on the surface of a kidney pre disposed to hæmorrhage an artery ruptures and the blood escapes between the capsule and the kidney parenchyma Four eventualities are described (a) the extensive subcapsular perirenal hæmatoma when the capsule is loose (b) circumscribed subcapsular hæmatoma when the hæmorrhage is not forceful enough to dissect up from the kidney its unevenly adherent capsule (c) the extracapsular hæmatoma when the suddenness and force of the hæmorrhage rupture the capsule and the blood escapes into the perirenal tissues to any degree If this hæmatoma is circumscribed and later becomes encysted it forms (d) the circumscribed encysted perirenal hæmatoma After the hæmatoma has once become encysted many of the phenomena reported in the collected cases may be accounted for The wall may be partly formed by the kidney parenchyma and assume secretory powers The contents may undergo all the modifications usual to encysted blood—may be serous or sero fibrinous or may form the perirenal hygroma The term external hydronephrosis is misleading

The left side was affected fourteen times the right seven in two cases it was bilateral Sixteen men were affected as compared to seven women It attacks the young oftener than the old

The three cardinal symptoms are sudden violent

pain in the kidney region soon accompanied by symptoms of internal hæmorrhage followed by the rapid appearance of a large tumor Pain is generally localized in the kidney region Sometimes, however it is spread over the entire abdomen These pains very closely simulate appendiceal and gall stone pains Occasionally there are repeated attacks of colic for many months Hæmorrhage is shown by the usual signs and symptoms The tumor forms rapidly is always large circumscribed elastic smooth and regular It can inhibit the respiratory movements and is almost immovable It is dull on percussion and very tender on palpation

Another symptom which might aid the diagnosis is a temperature of between 38° and 40° C Examination of the urine usually shows albumin and casts but seldom blood from the hæmorrhage Ureteral catheterization may be performed to rule out hydronephrosis Sanguinous suffusion though rare is pathognomonic when without history of injury the point of origin is seen to be the lumbar regions Radiography is only useful in ruling out stone

A diagnosis of spontaneous perirenal hæmatoma has never been made before operation It is most frequently mistaken for perinephritic abscess because of the fever which is usually present It has also been mistaken for tumor of the spleen appendicitis and cholecystitis

The prognosis is grave Left alone it has invariably proved fatal on account of hæmorrhage and the consequences which follow (seven cases reported)

The treatment is surgical Of ten cases in which the conservative treatment of incising and tamponing was practiced six survived Nephrectomy was practiced six times with five recoveries The author believes that in case of a recent brusque hæmorrhage cleaning and tamponing are indicated If the lesion is old or if there have been repeated hæmorrhages nephrectomy is the operation of choice Transperitoneal and lumbar incisions have been used with equal success The author prefers the parapertoneal incision of Verhoogen or the transverse incision Each case should be operated upon at the earliest possible time Naturally the sooner the operation follows the hæmorrhage the greater the chances for a favorable outcome ELLIS FISCHER

Braasch W F Clinical Data on Renal Lithiasis
J Lanc 1913 xxx 561 By Surg Gynec & Obst

This article is based on the study of two hundred and fifty-one cases An analysis of the cases showed that the classical symptoms of renal lithiasis were present in but 46 per cent of cases The phenomenon of pain and its radiation is carefully studied Pain was absent in 8 per cent of the cases Braasch dwells

ing results (3) There are mainly functional digestive troubles Nephropexy gives excellent results (4) The symptoms are those of spinal and cerebral neurasthenia These cases are very hard to cure but a prolonged post-operative treatment may yield very encouraging results (5) The symptoms are definitely those of mental derangement

Operative treatment is necessary in freely movable or rotated kidneys in cases with adhesions and those with marked local renal symptoms It is important to consider the personal equation of the patient Patients over 50 ought not to be operated on as a rule Nephropexy does not cure the patient except when performed for purely local symptoms it only makes recovery possible

FAXTON E. GARDNER

Swain J Hypernephroma or Mesothelioma of the Kidney *Bristol Med Ch J* 913 xxxi 213
By Surg Gynec & Obst

The author of this article reviews the conclusions of the study of Grawitz in respect to these peculiar tumors of the kidney and believes Wilson's contention that the theory of Grawitz has been successfully refuted by Stoerk on the following grounds

(1) The Grawitzian tumors most frequently develop at the lower pole of the kidney where adrenal rests are not found (2) the so called fat of the cells of the Grawitzian tumors is usually not fat but a vacuolation related to the contents of the cells (3) the Grawitzian tumor is a tumor of the renal cortex and not of the renal capsule, in which adrenal rests are usually found and that (4) though the Grawitzian tumors do frequently contain cords which however only remotely resemble those found in the suprarenal yet they almost invariably contain tubules the analogues of which are never seen either in the normal suprarenal or in the tumors of that gland

The author quotes from Wilson's article in which he says that these tumors are mesotheliomas or more definitely nephromas that is that they are elaborated from masses of nephrogenic tissue which have never become connected with the renal pelvis and which have never attained adult type in either form or function

He further states that whatever the theory of origin of these tumors may be their clinical importance and their malignant character is general He is not able to outline a very definite set of symptoms He lays stress on pain in the back reflected along the ilioinguinal and iliohypogastric nerves and early frequent micturition

Regarding the hæmaturia the author writes as follows

Sudden and profuse hæmaturia is said to be a common symptom though I have not found it so and as the renal substance is gradually absorbed rather than invaded by the growth of the tumor and the renal pelvis is not necessarily involved there seems to be no reason for expecting hæmaturia to occur but should it take place it would probably

be accompanied by some renal colic owing to the presence of blood clot in the ureter though the pain in the back frequently alternates with the occurrence of bleeding In this last respect the symptoms differ from the hæmaturia and pain which occur in association with renal calculus The urine presents no special features A tumor is found presenting the characteristics of a renal swelling and later on metastases occur the general health of the patient begins to decline and the usual cachexia of malignant disease ushers in the final stage

He lays stress on the secondary deposits occurring along the veins and infecting the long bones lungs, and liver He notes that varicocele is a very common accompaniment of this tumor especially on the left side On section it shows yellowish patches mixed with hæmorrhagic areas, some of which have a tendency to cyst formation The cells are of epithelial origin or epithelioid character and arranged in nests or columns Histologically therefore the growth approaches sarcoma in structure in spite of the epithelial formation of its cells He recites two cases one of which died four months after operation the second of which lived from May 8 1911 to the last part of July 1912

The author in conclusion emphasizes the necessity of palpating the kidney early in order to discover these tumors which frequently give no symptoms until it is too late He notes that the growth is sometimes very slow and that the tumor may become very large before having been discovered He states that 78 per cent of all tumors of the kidney belong to this class He believes that if operation is performed early enough a nephrectomy should remove the tumor before metastases occur

A C STOKES

Foster N B : Functional Tests of the Kidney in Uræmia *Arch Internal Med*, 1913 xi N 4
By Surg Gynec & Obst

The author calls attention to certain limitations of two popular functional renal tests in relation to diagnosis and prognosis in uræmia Uræmia has no definite symptom complex but is conceived as intimately related to severe nephritis and as representing the denouement of a pathological process dependent on renal disease or of which renal disease is an invariable accompaniment It follows therefore that the value of a functional test can be measured by the results in demonstrated cases of uræmia

In America the most generally used functional test is that of phenolsulphonphthalein Cases of uræmia often fail to eliminate enough of it in two hours to permit of quantitative estimation Such cases sometimes die and sometimes improve sufficiently to leave the hospital Three notable exceptions to the test findings are emphasized Case 1 with a phthalein output of 53 per cent in two hours died one month later in uræmia and autopsy showed chronic nephritis, cardiac hypertrophy, and dilatation pulmonary oedema and cerebral oedema Case 2 with a phthalein output of

INTERNATIONAL ABSTRACT OF SURGERY

33

at length on the value of the radiogram also calling attention to the fact that a radiographic shadow located in the region of the kidney does not necessarily in itself indicate a calculus. The general characteristics of shadows are considered as well as the types of stones which are not visible in the radiogram. In some cases it may be necessary in order to identify a localized shadow to resort to pyelography. Lesions of other abdominal organs may be present in cases of renal lithiasis.

The author calls attention to the co-existence of gall stones and acute and chronic appendicitis with kidney stones. Urinary tract infection, value of urinalysis and functional tests in kidney-stone are briefly considered. *HERMAN L. KATZMAN.*

Vidakovich G. Injuries to the Kidney Vessels (Über die Verletzung der Nierengefäße). Für den Arch f path Anat u Berl 10 3 1903 1 554. By Zentralbl f d ges Chir u 11 Göttingen

The author observed a case of complete section of the kidney artery from a wound with a sharp instrument. He performed ligature of the pedicle and nephrectomy and the patient recovered. From this case and the study of 22 cases of injuries to the blood vessels of the kidney reported in the literature he advocates a separate reporting of injuries to the kidneys and to the kidney vessels and gives a detailed discussion of the frequency mechanism path logical anatomy symptoms diagnosis prognosis and treatment of the latter. Injuries to the kidney vessels are comparatively rare they form only a very small part of the injuries to the kidneys reported in the statistics. The author could find only 18 cases of subcutaneous and 5 cases of open injuries. The subcutaneous injuries in the direction of the pedicle stretching it lengthwise and so tearing it or in a fall from a high place a movable kidney is moved still farther by the violence of the fall so that the pedicle is stretched and torn. The clinical picture is that of severe hemorrhage and rapidly developing anemia. The hemorrhage may take place in various neighboring body cavities or in the case of open wound may be external. In the majority of cases there is no hematuria and if there is no hematuria in cases of hematomata in the region of the kidney it may be regarded as pathognomonic of injury to the vessels of the kidney. *REHM.*

Bland R. A. Traumatic Rupture of Kidney Three Cases South Ill J 9 5 1903. By Surg Cyne & Obst

The author reported three kidney cases (two of traumatic subcutaneous rupture in children and one stab wound. In the first two cases nephrectomy was done. The lines of cleavage were the same being situated between the lower and middle and the upper and middle thirds at a right angle to the long axis. The sex and line of cleavage were more

pronounced in the second case. The author explains the location of the lines of cleavage by Kuster's theory of rupture of kidneys by hydraulic pressure. In most cases it is due to a force hydraulic in nature acting through full vessels and a fall from the pelvis in the line of least resistance. The tubules which is the lower and middle thirds junction between the lower and middle thirds seems to be that line. Nephrectomy is the operation of choice unless hemorrhage can be controlled by sutures as was done in the third case. *C. D. FICKEL.*

Billington W. Nephropoiesis Its Clinical Significance. J 9 5 1903. By Surg Cyne & Obst

Renal mobility is a potent cause of ill health and is responsible for a serious fall in the working efficiency of otherwise healthy people. The author defines a pathologically movable kidney as one the position of which is affected by influences other than respiration and in particular by gravity.

Heredity is a factor of some importance. But muscular overstrain is particularly liable to cause displacement of the kidney in girls at and soon after puberty. Trauma is responsible for growing girls to take part in such games is responsible for loose kidneys. Constriction of the ureters is frequently blamed but its being a primary cause of nephropoiesis is very doubtful. The waist line is below the level of the normally placed kidneys and constriction of the waist rather tend to support than to force down these organs — if the kidneys have already fallen below the waist line constriction aggravates the nephropoiesis.

Childbearing is more a cause of generalized vice proptosis than of isolated nephropoiesis most cases of the latter are seen in unmarried or comparatively sterile women. The poor influence of constipation is hard to estimate. Absorption of the perineal fat in wasting diseases is not a cause of nephropoiesis as this fat has very little support of function and acts merely as packing. Its disappearance is one of the first results of abnormal mobility but not the cause of the latter.

Examination for kidney mobility must be made both in the recumbent and the standing position. The latter is very important.

At operation the lumbar fossa is found empty there is very little fat and the peritoneum is in danger of being wounded unless care is taken. There are adhesion and a formed vessels. The kidney is pale flabby and its capsule is mottled and not very adherent. Gross hydronephrosis is rare. Symptomatically cases of nephropoiesis may be arranged in 5 groups: (1) There are only local symptoms, but a very refractory to the treatment. (2) The function is disturbed of the sexual organs. This must not be forgotten before operation on the female pelvic organs. Nephropoiesis gives disquiet

grams the calculi were diagnosed by cystoscopy. Nine of these calculi were examined chemically and found to be composed of uric acid and urates. The author recommends that cystoscopy be given the preference in the diagnosis of vesical calculi.

V. LESPIVASSE

Bonn H K: The Differential Diagnosis of Bladder Neck Lesions. *Indica polis M J* 9 3 n 4 5 By Surg. Gynec. & Obst.

The author classifies these lesions as those relating to the bladder, the prostate, the urethra, those cases which may be termed extravascular and extra urethral, and those due to spinal lesions. Vesical causes are Vesical calculus, papilloma, and malignant growths obstructing the vesical neck and in tense congestion of vesical neck, whether of gonorrheal or other origin. Prostatic causes are sarcoma, carcinoma or tuberculosis of the gland and prostatitis, when they produce the pathognomonic symptom complex also a calculus lodged in the urethra, particularly in the prostatic portion. Extravesical causes are vesiculitis, appendicitis or salpingitis with vesical adhesions, inflammatory exudates, pressure of the sigmoid and abscess, whether in the pelvis proper or in the Retzius space. Extra urethral causes are peniurethral exudates or abscesses and urinary extravasation. He states that a temporary dysuria is occasioned by dilating a stricture or performing cystoscopy. Tabes dorsalis is given as the spinal cause. The author makes a plea for a very exhaustive history of the patient in these cases and a thorough conservative examination, not doing too much at one examination. The differential diagnosis between posterior urethritis, hypertrophy of the prostate, prostatitis, vesical calculi, gynecological conditions and tuberculosis of the kidney is also considered.

C R O CROWLEY

Miller A G: Can the Urinary Bladder Empty Itself? *Ed b M J* 913 n 3 6 By Surg. Gynec. & Obst.

According to Miller an acquired bad habit is not infrequently the cause of the presence of residual urine in the bladder. A man seldom passes water except when obliged to do so by a feeling of discomfort. Accordingly, he does not let the bladder empty itself by reflex action but tries to expedite the process by voluntary contraction of the abdominal muscles. When there is a great hurry and limited time the action is generally incomplete. Relief of discomfort being what is sought, the process is arrested when that relief is obtained. As life advances the incomplete act becomes more frequent. In this way residual urine forms and accumulates from mere habit.

The cure consists in training the bladder to resume its normal function. The author goes so far as to assert that the same method ought to be successful also in those cases where the residual urine is due to the presence of an obstruction along the urethra.

FAXTON I CARDNER

Keyes Jr E L: Ultimate Results of the Chetwood Operation for Retention of Urine. *N I M J* 19 3 n 645 By Surg. Gynec. & Obst.

Keyes employs the Chetwood operation for the removal of all minor obstructions such as bars and contractures of the bladder and in some cases of prostatic hypertrophy where the patient's general condition is bad. He lays emphasis on the selection of cases, as one is likely to err first in operating upon patients suffering from painful or frequent urination but with little or no retention who would do as well without operation of the neck of the bladder second in attempting to relieve by cauterization an obstacle requiring prostatectomy. The advantage of the operation is that it may be performed under local anesthesia, takes only five or ten minutes and causes less shock than any prostatectomy. From three cases illustrating in complete relief he comes to the following conclusions: First, if the retention is not entirely relieved a return of symptoms may be looked for. Second, other conditions such as pyonephrosis may spoil what would otherwise be a cure. Six of his patients were left with incontinence of urine and seventeen of twenty seven patients were cured after periods varying from one to nine years. He expects to obtain a much larger proportion of cures in his next series of twenty five cases.

J RABDA

GENITAL ORGANS

Caron M: A Case of Malignant Tumor of the Testicle with Remarks. *Am J Urol* 9 3 1 483 By Surg. Gynec. & Obst.

Caron reports a case, age 26, which entered the hospital with the diagnosis of pulmonary tuberculosis.

A few days later an increasing enlargement of the testicle which was slightly tender was noticed. There were no adhesions or sinuses. A diagnosis of secondary tuberculosis of the testicle was made. The patient died one month later with choking paroxysms and severe pain in the chest.

At autopsy the lungs were filled with circumscribed nodules about the size of a walnut but there were no signs of tuberculosis. The prelumbar lymph nodes were very much enlarged, their surfaces were irregular and friable. The walls of the aorta and vena cava were intact. The liver, lungs and kidneys contained almost the same material. A microscopic section from the liver, lungs and kidneys showed that these masses of cells were entirely different from those found in the prelumbar lymph nodes. In other words these were the angioplastic cells described by Malassez in 1878 but later recognized as syncytial cells. The cells in the lymph nodes were exactly like those which Chevasu called seminoma (epithelial in type).

The testicle showed infiltrating regions in which both types of cells could be seen. The author believes that the metastasis took place through the lymphatics to the lymph nodes and through the

63 per cent complained of extreme vertigo and cramps in the legs. In 24 hours there was coma and death occurred three days later. Anatomical diagnosis: Chronic nephritis, small granular kidney, cardiac dilatation, ulcerative colitis and edema of the brain. Case 3: For a month there had been increasing dyspnea and swelling of the abdomen and legs. The course of the disease appeared favorable. Eleven days before death phthalein was 57 per cent but without prodromal symptoms. The patient had a severe convulsion seizure lasting one hour and died shortly after. The anatomical diagnosis was: Chronic parenchymatous nephritis, large white kidney, cerebral edema, edema of the lungs. These three exceptions to the usual operation of the phthalein test in nephritis suggest to me that its presence or absence terminates the rate of secretion by the kidney.

In Germany in the last few years there is an ever increasing insistence on the significance of the non-protein nitrogen of the blood in nephritis. Foster found the average non-protein nitrogen in 100 normal controls to be between 32 and 33 mg. In 72 cases of uremia it was 87 mg per 100 ccm.

Strauss believes that in parenchymatous nephritis the non-protein nitrogen is usually low, which Foster confirms particularly in cases of purely tubular element in which the process has not been of long duration but it is occasionally low in cases of contracted kidney also. Figures under 40 mg in 100 ccm of blood in these cases with uremia are not very exceptional in my series. He cites case four who four days before death showed 28 mg of non-protein nitrogen in 100 ccm of blood and whose 24-hour urinary output was between 500 and 800 ccm with a trace of albumin and many casts. Anatomical diagnosis: Chronic nephritis (extremely small granular kidney), edema of brain, marked colitis, uremia.

Flrth J. L. Nephropexy. *Rev. Med. Ch. J. 91*
Vol. 120. By Surg. (S) New & Oint.

The author states that the object of the communication is to express appreciation of the technique of nephropexy as recommended by Bllington and at the same time to emphasize the fact that in the operation great caution has to be taken as to the wounds of the pleura. He further states that his reason for passing from other well-known methods of anchoring the kidney to the Bllington method is the fact that the other methods seem to anchor the kidney too low. He describes the Bllington method in three steps: (1) Oblique incision beginning over the last intercostal space from the muscles of the back for perinephric space from below the last rib. (2) Some distance above and below the last rib, separate location of the kidney into the loin and separation of all adhesions. (3) Deflection of a flap of renal capsule downward from the periphery of

the kidney two thirds of the flap being from the posterior surface, one third from the anterior. (4) Insertion of two supporting subcapsular sutures in the manner of Goellet and Brödel, into the lower half of the kidney, the end of these being long enough to pass through the muscles and skin above the wound to be tied over gauze rolls. (5) Passing a curved Spencer Wells forceps through the eleventh intercostal space at the edge of the erector pectoris muscle so that the ends of the forceps curve round the last rib and project below into the upper part of the wound and (6) passing the capsular flap of the wound and (7) passing over the last rib grasped in the forceps mentioned over the last rib and suturing the portion drawn out to the capsular surface of the kidney at the lower border of the rib. The author further describes a case in which he had an accident. He opened the pleura in attempting to attach the kidney to the last rib as described by Bllington and pneumothorax resulted.

Forty-eight hours after the operation difficulty in breathing was more marked, respiration rapid, patient rather dusky in appearance, resonance on percussion from the right chest across the middle line slightly beyond the left edge of the sternum in the cardiac region. The apex beat was still further displaced to the left.

An aspirator needle was therefore passed into the chest on the right side through the seventh intercostal space near the posterior axillary line and connected with the vacuum made in a Winchester quart bottle. The air immediately passed into the bottle from the chest. At the same moment the patient began to have a series of short coughs, rapidly repeated and she became more dusky and distressed. The vacuum was shut off and after a pause of half a minute or a minute the cough ceased and the communication with the bottle was re-established. More air came from the chest and more coughing occurred but not so much as before. The vacuum was again shut off and after a pause again connected with the chest and then the needle withdrawn as no more air seemed to be obtainable from the pleural cavity. The signs of pneumothorax could not be elicited and the apex beat had come back at least a inch nearer its normal position. The patient would not confess that her breathing was easier for another ten minutes. After that time convalescence was normal. The author concludes by saying that he believes the Bllington operation for movable kidney is a very good one perhaps the best yet described.

A. C. STOKES

BLADDER URETHRA, AND PENIS

Beer E. The Relative Value of the Röntgen Ray and the Cystoscope in the Diagnosis of Vesical Calculi. *J. Am. Med. Assn.* 931: 376. By Surg. (Gynec. & Obst.)

The author states that in the radiographs of twenty-two cases of vesical calculi the latter showed in only six cases. In the ten negative roentgenograms

grams the calculi were diagnosed by cystoscopy. Nine of these calculi were examined chemically and found to be composed of uric acid and urates. The author recommends that cystoscopy be given the preference in the diagnosis of vesical calculi.

L. LEIGHTON

Bonn H K: The Differential Diagnosis of Bladder Neck Lesions. *India J Med Sci* 1913, 41: 415. By S R Gynec & Obst

The author classifies these lesions as those relating to the bladder the prostate the urethra those cases which may be termed extravescical and extra urethral and those due to spinal lesions. Vesical causes are Vesical calculus papilloma and malignant growths obstructing the vesical neck and in tense congestion of vesical neck whether of gonorrheal or other origin. Prostatic causes are sarcoma carcinoma or tuberculosis of the gland and prostatitis when they produce the pathognomonic symptom-complex also a calculus lodged in the urethra particularly in the prostatic portion. Extra vesical causes are vesiculitis, appendicitis or salpingitis with vesical adhesions inflammatory exudates pressure of the sigmoid and abscess whether in the pelvis proper or in the Retzius space. Extra urethral causes are penurethral exudates or abscesses and urinary extravasation. He states that a temporary dysuria is occasioned by dilating a stricture or performing cystoscopy. Tabes dorsalis is given as the spinal cause. The author makes a plea for a very exhaustive history of the patient in these cases and a thorough conservative examination not doing too much at one examination. The differential diagnosis between posterior urethritis hypertrophy of the prostate prostatitis vesical calculi gynecological conditions, an tuberculosis of the kidney is also considered.

C R O'CONNOR

Miller A G: Can the Urinary Bladder Empty Itself? *Ed J Med Sci* 1913, 36. By S R Gynec & Obst

According to Miller an acquired bad habit is not infrequently the cause of the presence of residual urine in the bladder. A man seldom passes water except when obliged to do so by a feeling of discomfort. Accordingly he does not let the bladder empty itself by reflex action but tries to expedite the process by voluntary contraction of the abdominal muscles. When there is a great hurry and limited time the action is generally incomplete. Relief of discomfort being what is sought the process is arrested when that relief is obtained. As life advances the incomplete act becomes more frequent. In this way residual urine forms and accumulates from mere habit.

The cure consists in training the bladder to resume its normal function. The author goes so far as to assert that the same method ought to be successful also in those cases where the residual urine is due to the presence of an obstruction along the urethra.

FAYO F. C. WINTER

Keyes Jr E L: Ultimate Results of the Chetwood Operation for Retention of Urine. *J Urol* 1913, 20: 645. By S R Gynec & Obst

Keyes employs the Chetwood operation for the removal of all minor obstructions such as bars and contractures of the bladder and in some cases of prostatic hypertrophy where the patient's general condition is bad. He lays emphasis on the selection of cases as one is likely to err first in operating upon patients suffering from painful or frequent urination but with little or no retention who would do as well without operation of the neck of the bladder second in attempting to relieve by cauterization an obstacle requiring prostatectomy. The advantage of the operation is that it may be performed under local anesthesia takes only five or ten minutes and causes less shock than any prostatectomy. From three cases illustrating in complete relief he comes to the following conclusions: First if the retention is not entirely relieved a return of symptoms may be looked for. Second other conditions such as pyonephrosis may spoil what would otherwise be a cure. Six of his patients were left with incontinence of urine and seventeen of twenty seven patients were cured after periods varying from one to nine years. He expects to obtain a much larger proportion of cures in his next series of twenty five cases.

J RAMDA

GENITAL ORGANS

Caron M: A Case of Malignant Tumor of the Testicle with Remarks. *Am J Urol* 1913, 48: 3. By Surg Gynec & Obst

Caron reports a case age 26 which entered the hospital with the diagnosis of pulmonary tuberculosis.

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At autopsy the lungs were filled with circumscribed nodules about the size of a walnut but there were no signs of tuberculosis. The prelumbar lymph nodes were very much enlarged their surfaces were irregular and friable. The wall of the aorta and vena cava were intact. The liver lungs and kidneys contained almost the same material. A microscopic section from the liver lungs and kidneys showed that these masses of cells were entirely different from those found in the prelumbar lymph nodes. In other words these were the angioplastic cells described by Malassez in 1878 but later recognized as syncytial cells. The cell in the lymph nodes were exactly like those which Chevassu called seminoma (epithelial in type).

The testis showed infiltrating regions in which both types of cells could be seen. The author believes that the metastasis took place through the lymphatics to the lymph nodes and through the

confidence of the patient and the reasons for all treatment are explained.

Tuberculin is given in most cases according to Tru leu's rule a bouillon filtrate supplied by Baldwin of the Syracuse Lake Laboratory being used. It is administered once a week the initial dose being .0001 to .0005 mg. This is gradually increased to 50 or 100 mg. the clinical signs of reaction local, focal or constitutional being carefully observed. These latter have been rare and no untoward results have followed. Patients are urged to return once a week as long as the conditions improve the interval is lengthened. Pulse weight and temperature are taken each time and if there is an occasion a chest examination is made. With the exception of oil of sandal for frequent and painful micturition drugs are rarely used. If the patient is under weight one quart of milk a day is added to the diet.

As to results at the time of writing there were 24 cases of renal tuberculosis where nephrectomy had been performed which had been under observation for a varying length of time. One case developed pulmonary tuberculosis and left for home in Sweden in poor condition. Another had a tubercular renal and genital tuberculosis and pulmonary chest involvement 15 months after operation. The others all showed improvement in weight general health, and urinary symptom. Some to a very marked extent. Nine of the sinuses closed within a few weeks some remained open several months. Of late we have adopted the suggestion of the Mayos to close the nephrectomy wounds without drainage after filling them with salt solution. Five of these were so treated. One had a superficial hematoma the other four healed by first intention. There were also under observation a number of cases of genital tuberculosis nine of which have been operated on for unilateral or bilateral tuberculous epididymitis. Most of these cases also had an improvement but it is naturally not so striking as in the renal cases. The authors do not attribute the improvement shown by these patients to tuberculin alone. They think however that it helps the genito urinary cases. There can be no doubt of the psychical

of the treatment for which the patients will return, thus enabling them to be kept regularly under observation for a longer time than would otherwise be the case. They regard the good results as due to the judicious combination of surgery hygiene tuberculin and consideration of the patients' needs.

Beer E.: The Use of Tuberculin in the Diagnosis of Obacure Conditions in the Genito Urinary System. *Med Rec* 913 ix xi 650
By Surg. C. Beer & O. St.

The author again calls attention to the importance of the use of tuberculin as a diagnostic aid and deplores the fact that this important test is not more generally in use particularly to clear up the more obscure cases of renal prostatic and testicular disease in which the tuberculin definitely assists in making a diagnosis. He quotes the statistics of Vogts who noted only 27 per cent errors in 7327 cases. In Beck's series of 2505 cases of which 3,1 were clinically tuberculous, all were positive to the tuberculin test. Neisser reports all tubercular cases positive in his experience. In Moeller's 8000 syphilis cases a positive reaction was present in 100 per cent. However the author wishes to make it clear that certain cases of tuberculosis may not react to tuberculin. Mohr thinks a negative response excludes tuberculosis but Beer takes exception to this in the following statement. A general plus a local response is practically invariably due to a focal tuberculosis and such a response locates the diseased area. A general minus a focal response is of no practical value as the most careful examination can not exclude tuberculosis in other parts which may give the general reaction.

The author does not recommend the use of tuberculin as a routine procedure in genito urinary diseases, as he appreciates the fact that occasionally particularly in a large series of cases unfavorable reactions may follow especially if the dosage is not carefully guarded and the preparation is not scrupulously careful. He then cites three interesting cases at length which will be of value to those interested in this subject. I. S. KOTZ.

SURGERY OF THE EYE AND EAR

EYE

Coats, G: Anterior Ring of Opacity in Lens Following Contusion *Ophth Rev* 19 3 xxxi 295
By Surg Gyner & Obst

The case reported is that of a boy 12 years old examined eight days after being struck in the eye by a piece of clay. There was no external wound but hemorrhage in the aqueous humor with ciliary and conjunctival injection. With transmitted light a small ring was seen on the anterior surface of the lens near the center made up of very fine granules. The outer border was sharply delimited the inner less so. The ring was only faintly seen with oblique illumination and appeared to have a brownish color. The opacity soon cleared and vision returned to normal.

The description is characteristic of what is termed Vassius contusion ring 23 cases of which have been reported. Vassius considers the condition an impression of the pupillary margin on the anterior surface of the lens it being either a change in the superficial layers of the lens or a deposit of pigment granules squeezed out of the pigment epithelium of the iris. It has been supposed that this center of the cornea is doubled in and actually forces the iris against the lens, but the author considers that it is simply the sudden increase in intra-ocular pressure which presses the iris against the lens.

EARLE B FOWLER

Gradle H S: A Hitherto Undescribed Anomaly of the Macular Retina *Ophth Rev* 19 3 xxxi 391
By Surg Gyner & Obst

Gradle reports three cases of an anomaly of the macular retina which has hitherto been undescribed. The condition seems to be in the nature of a congenital malformation not affecting visual acuity and certainly it is not pathological.

The ophthalmoscopic picture is alike in all three cases although of varying degree. In an otherwise normal eye the fovea is comprised of a slightly oval area about the size of the disc of a dark red color speckled with fine red points. In the center is an exceptionally well demarcated discoid yellowish white foveal reflex. The dark red fovea is surrounded by a grayish red zone sharply demarcated on the foveal side and gradually fading into the surrounding normal fundus toward the periphery. The foveal edges are clean cut and seem to be as perpendicular as are the edges of a glaucomatous cupped disc. The papillo-macular artery in passing through the light zone is hazy but reappears sharp at the edge of the fovea bends backward and becomes lost in the depths of the macula. The floor

of the fovea is uniform and seems to be about one third of a millimeter deeper than the surrounding lighter zone. It can easily be seen that this zone is composed partly of vague restless light reflexes and partly of a delicate grayish opacity situated in the innermost layers of the retina. The rest of the fundus is normal.

The explanation of this condition seems to be in an abnormal thickness of the retina immediately around an otherwise normal fovea. The clivus is unusually abrupt and the nerve fiber and ganglion cell layers are in all probability unusually thick.

Sym W G Detachment of the Retina Produced by General Edema *Ophth Rev* 1913 xxxii 293
By Surg Gyner & Obst

The case reported is that of a girl 19 years old in the last weeks of pregnancy with an albuminuria and general edema. Vision was reduced and the fundus was only slightly pale with a whitish edema of the retina. The patient developed eclampsia a few hours after examination and was delivered of a full term child. Three days later there was still marked general edema and at this time a large globular detachment of the upper part of the retina in both eyes. Three days later this had become reattached and vision was rapidly improving.

EARLE B FOWLER

Pischel K Sclero Corneal Trephining for Glaucoma *Calif St J Med* 1913 xi 397
By Surg Gyner & Obst

Pischel reviews the Elliott operation for glaucoma. He has performed trepanation nineteen times on fifteen eyes in nine patients the result being

Vision Better in 6 cases the same in 3 cases worse in 3 cases. In three cases amaurosis existed before the trepanation.

Field Larger in 7 cases the same in 2 cases, smaller in 1 case. In five cases the field could not be taken.

Tonometer reading Lower in 14 cases and the same in 1 case.

Pischel uses the trepan (he believes the word trephine not the correct one) in a dental engine and uses a guard to prevent it from entering too deeply.

C G DARLIG

Wyller J S The Trephining Operation in Glaucoma *La Med* 9 3 cx 432
By Surg Gyner & Obst

Wyller takes up first the technique of Elliott's trephining operation for increased tension emphasizing the splitting into the corneal layers without button holing the flap so as to make the opening

lar enough forward. He advocates a longitudinal split in an iris that may prolapse rather than an iridectomy.

The advantages as summed up are: 1. Face with which the operation can be performed. 2. Complications are rare. 3. Danger of infection is slight. 4. In most cases a round pupil remains and myotics may be used later. 5. Inflammation is a negligible quantity. 6. Present statistics show the percentage of result superior to any one single method.

The author described cases of different types on which he has performed this operation.

F. A. B. FOWERS

EAR

Lothrop O. A.: Furunculosis of the External Auditory Canal. The Use of Alcohol as a Valuable Aid in Treatment. *B. Jour. U. S. S.* 1913 cl. 645. By A. R. C. J. N. & O. A.

The pathology of furuncles of the external auditory canal is the same as that of boils on other parts of the body. They are caused by infection of the hair follicles. A person is often predisposed to them by a middle ear discharge, picking or scratching the ear by the removal of cerumen and by sea bathing.

The usual treatment consists of hot dressings with carbolic glycerine and one or more incisions in the canal. The main object of the treatment advocated by the author is the constant disinfection of the canal and the pus thus preventing a reinfection. The treatment consists of the incision of an ripe furuncle, the thorough cleaning of the

ear canal and the insertion of a gauze packing almost to the ear drum and completely filling the canal. This gauze is kept moist by frequent applications of alcohol or alcohol and boric acid. The chief advantages claimed for this method by the author are that reinfection of neighboring hair follicles is often prevented and that cases in the very early stages are sometimes aborted.

J. H. SKILLIS

Dench E. B.: Report of Three Cases of Otitic Meningitis Treated by Drainage of the Cisterna Magna. *Laryngoscope* 913 Jan. 944. By Surg. Gen. & Ob-4.

Dench speaking of the operation of draining the cisterna magna for the relief of meningitis gives Cunningham credit for first describing such an operation and Haynes the credit of perfecting the technique of the operation from which much has been hoped. He relates three cases in which he performed the Haynes operation and though there was apparent improvement for a few days following the operation the cases terminated fatally.

Quoting directly his conclusion from these three cases follows: "It would appear that we have not yet discovered a surgical procedure which will enable us to combat successfully that dread disease, otitic meningitis. I do not mean to condemn the operation from the results obtained in such a small number of cases. I have nothing to add regarding the technique of the operation and believe that the procedure should be given a thorough trial but the results obtained from my limited experience have certainly not been encouraging."

H. B. THURBROW

SURGERY OF THE NOSE, THROAT, AND MOUTH

NOSE

McKenzie D: Sinusitis Fulcrum of the Frontal Sinus Operative Trauma of the Dura Recovery of the Sinus Membrane Larynx
Sect. 182 By Surg. J. C. & J. C.

The author reports a case of frontal sinusitis with supra-orbital swelling but absence of nasal discharge which required a series of four operations before the sinus was obliterated. During the first operation the periosteum elevator plunged through very thin anterior and posterior wall injuring the dura and liberating a sinus full of pus. The 1 mm dural tear was exposed and enlarged until cerebrospinal fluid flowed freely and a gauze drain was inserted. At the second operation six weeks later when a modified Killian operation was done the dural tear was healed.

By J. C. & J. C.

THROAT

Gougerot H and Quellien P: Primary Sporotrichosis of the Pharynx a New Form of Sporotrichosis of Mucous Membrane: Diagnosis Treatment and Importance
How pharyngeal primus form sinus ille de sporotrichosis les mucosues d'gnot d'tement importance med le P. med 9 1 10
By Zent H. d. g. Chr. (renge)

A woman of 51 living in the country had never been sick. Yet she showed signs of hereditary syphilis although he had never been suspected of having tuberculosis. Upon complaining of disagreeable sensation in the throat and difficulty in swallowing her physician made a diagnosis of granular laryngitis and lived iodized compresses. Her condition in place of improving grew worse slowly. The posterior pharyngeal wall showed large ulcerated surface with irregular edges which extended to the right posterior pillar to within 3 or 6 mm of the soft posterior pillar extended upward to the fossa and a narrow projection ran downward toward the esophagus. The bottom of the ulcer was gray and led a serous fluid resembling gum. The gland was not involved the submaxillary gland being scarcely perceptible and the lymphatic circulation did not show any other lesions. The skin of the mucous membrane. The case was normal.

Another peculiar believed it was a bercurium. By the author decided it was a m. was not a g. an. ure tube he used the cutle in the test in 14 weeks the patient died.

The case was serious as of nitration with some how when it not stopped proper

treatment and its tendency to ulceration in the late stages but it also shows that if treatment is not begun too late and the local treatment is well borne recovery is as rapid and complete as in cutaneous sporotrichosis.

This case is also a new clinical type it is the first case reported of primary pharyngeal sporotrichosis without cutaneous lesion. The two cases heretofore published have been buccal pharyngeal or laryngeal sporotrichosis with scattered cutaneous lesions that aided in the diagnosis.

The patient lived in the country and probably had infected herself from vegetables contaminated with sporotrichia. She either ingested them with insufficiently cooked vegetables or in chewing grass blades for a greater or less length of time the sporotrichium remained in the buccal pharynx increasing the virulence and sensitizing the organism with its secretion. Finally it established itself on the mucous membrane and gave rise to the local lesion.

The authors conclude that although there are secondary sporotrichoses of the pharyngeal laryngeal nasal or ocular mucous membrane in the great majority of cases of sporotrichosis of mucous membrane the point of entry is from a conjunctival, gingival, pharyngeal, laryngeal or skin.

J. C. & J. C.

H. B. Bacteriology of Primary Acute Edema of the Larynx (Leidende des unteren Kehlkopfes)
de larynx de relation microbienne 1
d. H. adu d. For. 12 913 1 1 32

By J. C. & J. C.

Bar report two cases of acute edema which in many of the symptoms simulated the erysipelatous laryngitis described by Maier. There was an initial chill a series of slight chill submaxillary lymphopathy with pain in the region of the condition with sudden recurrence oscillations in the temperature varying in degree and recurring with a high attack of edema and attacks of edematous inflammation ambulatory in type. In the first case bacteriology examination showed very numerous pneumococci taphylococci were streptococci and staphylococci. No bacteriologic examination was made in the second case. The presence of streptococci is a point of resemblance to erysipelas laryngitis but the author recognizes the importance of pneumococci taphylococci and staphylococci in the causation of infectious edema of the larynx. From the therapeutic standpoint he says that if a laryngeal edema is not relieved by other means that it is a point of resemblance to erysipelas laryngitis.

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SURGERY OF THE EYE AND EAR

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Ear

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Nose

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Mouth

- Median ulceration of the palate coexisting with an
 epidermal cyst AMARDETT Chin inf 913 xi 303
- The pathological and therapeutic possibilities of
 upper maxillary contraction and expansion G V I
 HAGO Wm M J 913 x 36
- Adamantinoma G W SCHORR Trudi Otsh Patol
 Petersb 913 u 7
- Plastic mouth surgery S I MCCRAW Pittsburgh
 M J 913 9
- Etiology and treatment of chronic pyorrhea alveolaris.
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- Dental affections caused by the ray fungus ZIEHL
 Wg Wien med Ztg 913 liii 43

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TABLE OF CONTENTS

I	INDEX OF ABSTRACTS OF CURRENT LITERATURE	111
II	AUTHORS	111
III	MONTHLY CRITICAL REVIEW	217-228
IV	ABSTRACTS OF CURRENT LITERATURE	229-313
V	BIBLIOGRAPHY OF CURRENT LITERATURE	314-332

ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

Aseptic and Antiseptic Surgery

- FRANK L. The Use of Iodine in Abdominal Surgery 229
 SAUSSELOFF M AND TELITSCHENKO E Alcohol Dressings 29

Anesthetics

- JANEWAY H H Intratracheal Anesthesia from the Standpoint of the Nose Throat and Oral Surgeon with a Description of a New Instrument for Catheterizing the Trachea 229
 HAZELBURY F The Kuhn Method of Peroral Narcosis 30
 BRAUN H Use of Potassium Sulphate to Strengthen the Local Anesthetic Effect of Novocaine 23

SURGERY OF THE HEAD AND NECK

Head

- WORTHINGTON, T C Empyema of the Frontal Sinus with Exposed Dura Cured by Obliteration of the Sinus 30
 SKILLERN R H Untoward Results Following the External Operation on the Frontal Sinus a Critical Review of Twenty Cases 30
 FISHER L M Radical and Plastiatic Methods of Operation for Brain Tumors Based on 4 Cases by the Author 3

Neck

- FRASER, C H AND LLOYD J H A Case of Tumor of the Hypophysis, Partially Removed by the Transfrontal Method of Approach 3
 BARTHELEMY AND FAIRBANK Branchial Epithelioma Involving the Submaxillary Glands 23
 FARRAM, R Hyperthyroidism Its Experimental Production in Animals 32
 VOY WAGNER J Surgical Treatment of Hypothyroidism 33
 JONES E O A Method of Controlling Hemorrhage in Thyroidectomy 33
 FREEMAN L The Use of the Wire Clamp Operations in Goiter 34

SURGERY OF THE CHEST

Chest Wall and Breast

- GOSSET A AND MASSON P Anatomopathological Study of 75 Cases of Cancer of the Breast 234
 LAPHAM M E The Surgical Treatment of Pulmonary Tuberculosis 234
 BECKMAN E H Observation on Lymphoma 35
 POENSCHEV F Reciprocal Relations Between the Thymus, the Thyroid and the Lymphatic System 35
 KOLB, K Can a Persistent or Hyperplastic Thymus Be Demonstrated with Abderhalden's Ferment Reaction 235

Trachea and Lungs

- SEGURA E V A Case of Cylindroma of the Trachea External Operation Recovery 236
 GROEYER A A AND KARSNER H T A Study of the Relation of the Pulmonary and Bronchial Circulation 236
 SEGURA E V Mycoses of the Mucous Membrane of the Respiratory and Upper Digestive Tracts 236

Pharynx and Esophagus

- TORREK F The First Successful Resection of the Thoracic Part of the Esophagus for Carcinoma 237

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum

- QUAIN E P The Necessity of Conserving the Intercostal Nerves in Abdominal Incisions, an Experimental Study 237
 McDELL J R Chronic Ascites Treatment and Drainage by Lymphangioplasty Through a Trocar Wound Under Local Anesthesia An Experimental Study 38
 VERT, J Questions in regard to the Peritoneum from the Author's Experience 239
 HANCOCK, J C Coincidence of Umbilical Hernia with Gall Stones 239
 GUSSEW V Treatment of Incarcerated Hernia Based on 420 Cases 239
 DE GARMO W B Accidental Wounds in Hernia Surgery 240

SURGERY OF THE SPINAL COLUMN AND CORD

- GOLANT A J Ankylosis of the Spinal Column 263
 PELTESON S Abbott's Treatment of Scoliosis. 264
 NEFF J J Results of Bone Plastic and Graft Operations on the Spine for the Cure of Pott's Disease 264

SURGERY OF THE NERVOUS SYSTEM

- LEACH R Stretching and Section of the Perivascular Nerves in Some Painful Syndromes of Arterial Origin and in Some Trophic Disturbances 65
 SMITH J K Surgery of the Nerve Trunk 65

DISEASES AND SURGERY OF THE SKIN, FASCIA, APPENDAGES

- BECK S C The Treatment of Burns 66

MISCELLANEOUS

- Clinical Entities—Tumors, Ulcers, Abscesses, Etc.
 BLOODGOOD J C Cancer Control 266
 PERCY J F Inoperable Cancer: the Best Methods of Discouraging Its Activity: A Study of Heat in Cancer 66

- MARAGLIANO D Physiotherapy of Abdominal Shock 267
 STICH R Present Status of Transplantation of Organs 267
 RESCHKE A Autoplastic and Homoplastic Transplantation 267

Sera, Vaccines and Ferments

- WOLFSON G Serum Diagnosis of Cancer 268

Blood

- HANSEN R Thrombosis 268
 VAUGHAN J W Direct Blood Transfusion 268
 KNIGHT A R Transfusion by Means of Glass Cylinders 269

Poisons

- HAYES W D Gas Bacillus Infection with Report of Cases 269

Electrology

- CUMBERBATCH E P Fatal Leukopenia Following X-Ray Treatment 269
 BOODY O Bactericidal Effect of Mesothorium 270

Military and Naval Surgery

- WIDENFELD S Military Surgery 270

GYNECOLOGY

Uterus

- LIEBER B Histology of Carcinoma of the Cervix 27
 WERTHEIM Cancer of the Uterus 271
 RUBIN I C The Early Diagnosis of Uterine Cancer with Especial Reference to Diagnostic Excision of Cervical Lesions: Diagnostic Curettage and the Routine Microscopy of Curettings 27
 BENNETT C AND BOVVER V Results of Radical Operation for Carcinoma of Cervix Uteri 7
 CARAVEY J AND MERLE P Diffuse Adenoma of the Cornea of the Uterus 7
 BOVI A Infiltrating Hydatidiform Mole 73
 RAAB H Differential Diagnosis of Myoma Rich in Cells and Myosarcoma of the Uterus 3
 DARTIGUES L Technique of Anterior Colpotomy for Fibromyomectomy 74
 SCHOTTLANDER J The Histological Diagnosis of Neoplasms of the Uterus 74
 LEONHART C Association of Rectal with Uterine Prolapse 75
 BOJZE Th Surgical Treatment of Genital Prolapse and Its Results 75
 MEYER L The Surgical Treatment of Genital Prolapse and Its Results 5
 CROSSEY H S The Conservative Operative Treatment of Long Standing Inversion of the Uterus 7
 SCHMITZ H A Modification of Webster's Endopertoneal Shortening of the Round Ligaments 6

- IRAR L K Hernia of the Uterus and Both Adnexa 26
 WHITEHOUSE R Menstrual Pain 277
 CARSTEN'S J H Dysmenorrhea 277
 FABRE External Hystero-graphy 278
 PROLET R AND MAUREL A Ligature of the Internal Iliac Artery in Total Abdominal Hysterectomy for Cancer 78
 BLAND-SUTTON J The Visceral Complications Met with in Hysterectomy for Fibroids and the Best Methods of Dealing with Them 81
 BOUTNER Transverse Excision of a Wedge from the Fundus of the Uterus, Preceded by Bilateral Excision of the Adnexa to Maintain Menstruation 281

Adnexal and Peruterine Conditions

- CARSTEN'S J H A Seven Pound Ovarian Tumor that Developed into a Cyst 82
 POTTER M F Sarcoma of the Ovary 28
 KIDDER H Congenital Dermoid Cysts of the Ovary 282
 POLLOSSON A AND VIOLET H Cysts of the Ovary Due to Tuberculosis 282
 JAYLE T Tuberculosis of Salpingitis 283

External Genitalia

- WADE H A Description of a New Method of Repair for Vulvar Hernia with a Report of 140 Cases Which It Was Used 83

Miscellaneous

- REDLICH The Significance of Internal Secretion in the Physiology and Pathology of the Female Genitalia Apparatus 284
- VOY HERTZEN V Parotitis after Abdominal Operations, Mostly Gynecological 284
- PAMPANINI, G Association of Tuberculosis and Tumors of the Female Genitalia 24
- SCHMIDT O The Surgical Treatment of Peritoneal and Genital Tuberculosis 285
- OPPEL E The Relations of Inflammatory Conditions of the Colon to the Female Genitalia and to Functional Neuroses 285
- GRAVER, W P Relationship Between Gynecological and Neurological Diseases 85

OBSTETRICS

- Pregnancy and Its Complications
- OUTERBRIDGE, G W Decidual Reaction in the Appendix in Intra Uterine Pregnancy 286
- UTTENBERGER, F Pregnancy in Both Tubes at Once 286
- VOY SCHRECK, A Uterine Myomata and Pregnancy 286
- SELLHEIM H Tuberculosis and Pregnancy 287
- HEIL, K Total Extirpation of the Gravid Uterus in Tubercular Patients 287
- MASCHKE, A Tetany Resulting from Experimental Parathyroid Insufficiency During Pregnancy and Eclampsia 287
- VACKER AND LESS Rapid Delivery in Eclampsia with a Contribution to the Blood Letting Treatment of the Same 287
- CLIVIO I Placenta Previa 287
- BONI A Treatment of Placenta Previa 288
- BOUDY O Bacteriological Examinations in Extra-peritoneal Caesarea Section 288
- VOY MIHALOVICH E AND ROSENTHAL, E Clinical and Bacteriological Contributions on the Treatment of Abortion 288
- WAERER A Report of 593 Abortions with Special Consideration of Treatment of Fetal Abortions 289
- HUNTINGTON J L Relation of the Hospital to the Hygiene of Pregnancy 289
- Labor and Its Complications
- SCHLAPOFFER, J Rectal Examinations During Delivery 289
- SCHWARTZALLER N Manipulations in Brow Presentations 289
- MOSELER, G C The Problem of the Occipito-Posterior Position 289
- FRANCIS F Injuries to the Eye by Forceps Delivery 289
- Puerperium and Its Complications
- NAGEL The Blood Vessels of the Puerperal Uterus 290
- HARRAR, J A The Treatment of Puerperal Streptococemia with Intravenous Injections of Magnesium Sulphate 290
- RICKETTS, R M Surgery of Puerperal Eclampsia Suprapubic Caesarean Section 290
- VOGT E The Trendelenburg Operation in Puerperal Pulmonary Embolism 9
- Miscellaneous
- KJÖLSETH, M Signs of Maturity: New Born Child 291
- WELCH J E Human Serum Treatment for Hemorrhagic Diseases of the New Born 291
- LENNER E Tetany of the New-Born 291
- JØRGENSEN G Investigations on the Salt Fever of Nourishings 291
- HENSCHKE K The Diagnostic and Therapeutic Aspiration of the Fontanel in Subdural Hematomas in the New Born 29
- VOGT E Duodeno-Junal Hernia in the Infant 293
- BOERMA N J A F The Manner of Embedding the Human Embryo 293
- VISSER, R The Relation of the Ovary and the Fertilized Ovary to the Follicle Apparatus and That of the Corpus Luteum to Menstruation 293
- WARTEN A S Miliary Tuberculosis of the Placenta, with Incipient Pulmonary Tuberculosis of the Mother Becoming Latent after Birth of Child 293
- GOLLARD C A Consideration of the Reaction of the Human Organism to the Class of Foreign Proteins Represented by the Syncytial Cell 294
- HYGEMANN T The Diagnostic Value of X Rays in Obstetrics 294
- WILLIAMSON H The Value of Abderhalden Test for Pregnancy 294
- SOYD, A Abderhalden's Serological Diagnosis of Pregnancy 295
- STOCKEL Abderhalden Pregnancy Reaction 295
- JONES, W Contribution to the Clinical Value of the Abderhalden Serum Reaction of Pregnancy 295
- SCHLEIFER, F Abderhalden Ferment Reaction in the Serum of Pregnant Women 295
- LIVENHIZER, G The Calcium Content of the Blood During Pregnancy 295
- HINDELMANN H So-Called Physiological Pregnancy Thrombosis of Vessels of the Placental Site 295
- LÖNNQVIST R The Importance of Pituitrin in Obstetrics 296
- HOPSTÄTER, R Fractures and Injuries Resulting from the Administration of Hypophyseal Extract 296
- VISSER A Dangers Incident to the Use of the Momburg Tube 296
- NILLER, F Placental Hormones and the Use of Placental Extracts as Lactagogues 296
- LA TURKE Is There a Certain Type of Uterine Musculature from an Obstetrical Point of View? 297
- LESTER, H Intra Uterine Amputation of the Femur with Occlusion of the Urethra and Rectum 297
- SCHNEIDER, H The Late Results of Obstetric Procedure 297

GENITO URINARY SURGERY

Kidney and Ureter

- PILCHER, P. M. Fractness in Diagnosis and Conservation in Treatment of Renal Calculus 298
- LEJARS AND RUEBAS DUVAL Congenital Non Pathological Prolapsed Kidney 298
- RUPERT, R. R. Irregular Kidney Vessels Found in 50 Cadavers 298
- KROTOSZYVER Value of Pyelography for the Diagnosis of Hydronephrosis 299
- BERNSTEIN, H. S. The Incidence of Renal Involvement in Pulmonary Tuberculosis 299
- MOSEKALEFF, M. N. Etiology of Pyelonephritis 299
- KRETSCHMER, H. L. Pyelitis Follicularis 300
- STEVENS Partial Bilateral Nephrectomy in a Case of Calculous Pyonephrosis 300
- KROTOSZYVER, M. Untoward Results of Nephrolithotomy 3
- CAULK, J. R. Uterovesical Cysts and Operative Procedure for their Relief 301
- EISENDRATH, D. N. The Repair of Defects of the Ureter 302
- BECK, C. The Implantation of the Ureters into the Large Bowel 30
- Bladder Urethra and Penis
- YOUNG, H. H. The Present Status of the Diagnosis and Treatment of Vesical Tumors 303
- ASHCRAFT, L. T. The Value of the D'Arsonval Current in the Treatment of Benign and Malignant

- nant Tumors of the Urinary Bladder Through the Operating Cystoscope 303
- ANDRE, Electro-Coagulation in Tumors of the Bladder 304
- JONES, E. S. Non-Papillary Benign Tumors of the Bladder 304
- BEER, E. Transperitoneal Resection of a Diverticulum of the Bladder 305
- MACGOWAN, G. The Transverse Incision and Abdominal Fascia as a Method of Approach in Suprapubic Operations on the Bladder and the Prostate 305
- RAYDALE, A. A Study of the Benign Polyps of the Male Urethra 305
- CRUICKSHANK, L. Sensitized Virus Vaccination in Gonorrhea, and Especially its Complications 305
- Genital Organs
- LESTRAVASSE, V. D. Transplantation of the Testicle 305
- WILSON, A. C. Treatment of Gonorrheal Epididymitis by Bier's Method 306
- SCHLOFFER, H. Technique of Suprapubic Prostatectomy and Its After Treatment 306
- MARIOT, G. After Treatment of Suprapubic Prostatectomy 306
- Miscellaneous
- HENMAN, F. An Experimental Study of the Aseptic Value in the Urine of the Internal Use of Hexamethylenamine 307

SURGERY OF THE EYE AND EAR

Eye

- SUSSMAN, R. Inclusion Blepharitis in the New Born 309
- MILLER, R. W. Affections of the Eyes Resulting from Sinus Involvements 309

Ear

- LYNCH, R. C. Congenital Absence of Both Ears 309
- WHITING, F. The Indications for the Labyrinth Operation 310

- McKINNEY, D. R. Cavernous Sinus Thrombosis Report of a Case 3
- BECK, J. C. Failures and Successes in Diagnosis and Surgical Intervention of Some Intracranial Diseases, Especially from the Standpoint of an Otolaryngologist with Report of Cases 310
- DYER, E. W. Report of 8 Cases of Purulent Meningitis Operated Upon by the Haines Method Post Mortem Findings 311

SURGERY OF THE NOSE THROAT AND MOUTH

Nose

- STUDER, G. Nervous Trunk Anesthesia and Cocainization in Nasal Surgery 3
- NOVAK, M. L. Report of a Few Cases Where Sutures Instead of Packing Have Been Used after Submucous Resection of the Nasal Septum 3

Throat

- CASELBERG, W. E. The Recognition of Early Changes in the Larynx in Tuberculosis 311
- Mouth
- McCURDY, S. L. Plastic Mouth Surgery 3
- LOEB, V. Fields for Research in Oral Surgery 313
- DEA, L. W. A Method of Closing Sinuses Between the Alveolar Ridge and the Mouth 313

Miscellaneous

- REZDICH The Significance of Internal Secretion in the Physiology and Pathology of the Female Genitalia Apparatus 284
- VON HERTZEN V Parotitis after Abdominal Operations, Mostly Gynecological 284
- PAMPANINI G Association of Tuberculous and Tumors of the Female Genitalia 284
- SCHMIDT O The Surgical Treatment of Peritoneal and Genital Tuberculosis 285
- OPITZ E The Relations of Inflammatory Conditions of the Colon to the Female Genitalia and to Functional Neuroses 285
- GRAVES W P Relationship Between Gynecological and Neurological Diseases 285

OBSTETRICS

- Pregnancy and Its Complications
- OUTERBRIDGE G W Decidual Reaction in the Appendix in Intra-Uterine Pregnancy 286
- UTTERBROOK F Pregnancy in Both Tubes at Once 286
- VON SCHNECK A Uterine Myomata and Pregnancy 286
- SELLHEIM H Tuberculous and Pregnancy 287
- HILL K Total Evulsion of the Gravid Uterus in Tuberular Patients 287
- MASSADIA A Tumor Resulting from Experimental Parathyroid Insufficiency During Pregnancy and Eclampsia 287
- NACKE AND LEST Rapid Delivery in Eclampsia with a Contribution to the Blood Letting Treatment of the Same 287
- CLIVIO I Place to Previa 287
- BONI A Treatment of Placenta Previa 288
- BONDY O Bacteriological Examinations in Extra-peritoneal Cesarean Section 288
- VON MEHALOVICH, C AND ROSENTHAL, E Clinical and Bacteriological Contributions on the Treatment of Abortion 288
- WAEKEL A Report of 503 Abortion with Special Consideration of Treatment of Febrile Abortions 289
- HUTVIGTON J L Relation of the Hospital to the Hygiene of Pregnancy 289
- Labor and Its Complications
- SCHLAFEROWSKI J Rectal Examinations During Delivery 289
- SCHWABERGER A Manipulations in Brow Presentation 289
- MOSER G C The Problem of the Occipito-Posterior Position 289
- PINGEL F Injuries to the Eye by Forceps Delivery 289
- Puerperium and Its Complications
- NAGEL The Blood Vessels of the Puerperal Uterus 290
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- Miscellaneous
- KJØLSETH, M Signs of Mortality in New Born Child 290
- WELCH J E Human Serum Treatment for Hemorrhagic Diseases of the New Born 291
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- BOHRER V J A F The Manner of Embedding the Human Embryo 293
- MEYER, K The Relation of the Ovary and the Fertilized Ovary to the Follicle Apparatus and That of the Corpus Luteum to Menstruation 293
- WARTEN A S Miliary Tuberculosis of the Placenta with Incipient Pulmonary Tuberculosis of the Mother Becoming Latent after Birth of Child 293
- FOULKE C A Consideration of the Reaction of the Human Organism to the Class of Foreign Proteids Represented by the Syncytial Cell 294
- HETTMANN T The Diagnostic Value of X Rays in Obstetrics 294
- WILLIAMSON H The Value of Abderhalden Test for Pregnancy 294
- SUNDE, A Abderhalden Serological Diagnosis of Pregnancy 295
- STOCKEL Abderhalden's Pregnancy Reaction 295
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- HOFSTÄTER, R Failures and Injuries Resulting from the Administration of Hypophyseal Extract 296
- MAYER A Dangers Incident to the Use of the Momburg Tube 296
- WALLAS, F Placental Hormones and the Use of Placental Extracts as Lactagogues 296
- LAUREN I There Certain Type of Uterine Musculature from an Obstetrical Point of View? 297
- KÄSTNER, H Intra Uterine Amputation of the Femur with Occlusion of the Urethra and Rectum 297
- SCHLÖSSER H The Latest Results of Obstetric Procedure 297

GENITO URINARY SURGERY

Kidney and Ureter

- PITCHER, P. M. Exactness in Diagnosis and Conservation in Treatment of Renal Calculus 298
- LEJARS AND RUBENS DUVAL Congenital Non Pathological Prolapsed Kidney 298
- RUPERT R. R. Irregular Kidney Vessels Found in 50 Cadavers 298
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- KRETSCHMER H. I. Pyelitis Follicularis 300
- STEVENSON Partial Bilateral Nephrectomy in Case of Calculous Pyonephrosis 300
- KROTOSZYNSKY M. U. toward Results of Nephrolithotomy 301
- CADLE J. R. Uretrovesical Cysts and Operative Procedure for their Relief 301
- EISENBRATH D. N. The Repair of Defects of the Ureter 301
- BECK, C. The Implantation of the Ureters into the Large Bowel 302
- Bladder Urethra and Penis
- LONGO H. H. The Present Status of the Diagnosis and Treatment of Vesical Tumors 303
- ASHCRAFT L. T. The Value of the D'Arsonval Current in the Treatment of Benign and Malignant Tumors of the Urinary Bladder Through the Operating Cystoscope 303
- ANDREWS Electro-Coagulation of Tumors of the Bladder 304
- JONES E. S. Non-Papillary Benign Tumors of the Bladder 304
- BEER E. Transperitoneal Resection of a Diverticulum of the Bladder 305
- MACGOWAN G. The Transverse Incision and Abdominal Fascia as a Method of Approach in Suprapubic Operations on the Bladder and the Prostate 305
- RANDALL, A. A Study of the Benign Polyp of the Male Urethra 305
- CRUVEILLIER, L. Sensitized Virus Vaccination in Gonorrhea and Especially its Complications 305
- Genital Organs
- LESPINASSE V. D. Transplantation of the Testicle 305
- WILSON A. C. Treatment of Gonorrheal Epididymitis by Bier's Method 306
- SCHLOFFER H. Technique of Suprapubic Prostatectomy and Its After Treatment 306
- MARION G. After Treatment of Suprapubic Prostatectomy 306
- Miscellaneous
- HITMAN, F. An Experimental Study of the Antiseptic Value in the Urine of the Internal Use of Hexamethylenamine 307

SURGERY OF THE EYE AND EAR

- Eye
- SUSSMANN R. Inclusion Blepharitis in the New Born 309
- MILLER R. W. Affections of the Eyes Resulting from Sinus Involvements 309
- Ear
- LYNCH R. C. Congenital Absence of Both Ears 309
- WHITING F. The Indications for the Labyrinth Operation 310
- McKENNEY D. R. Cavernous Sinus Thrombosis Report of a Case 310
- BECK J. C. Failures and Successes in Diagnosis and Surgical Intervention of Some Intracranial Diseases Especially from the Standpoint of an Otolaryngologist with Report of Cases 311
- DAY E. W. Report of 8 Cases of Purulent Meningitis Operated Upon by the Haines Method Post Mortem Findings 311

SURGERY OF THE NOSE THROAT AND MOUTH

Nose

- SLUDER, G. Nitrous Trunk Anesthesia and Carbolic Acid in Nasal Surgery 312
- NOYES M. L. Report of a Few Cases Where Sutures, Instead of Packing Have Been Used After Submucous Resection of the Nasal Septum 312

Throat

- CASELL RAY W. E. The Recognition of Early Changes in the Larynx in Tuberculosis 312
- Mouth
- MCCURDY S. L. Plastic Mouth Surgery 313
- LOES V. Fields for Research in Oral Surgery 313
- DEA, L. W. A Method of Closing the Mouth by the Attraction of the Ghimbre and the Mouth 313

BIBLIOGRAPHY

GENERAL SURGERY

SURGICAL TECHNIQUE

Operative Surgery and Technique	3 4
Aseptic and Antiseptic Surgery	314
Anesthetics	314
Surgical Instruments and Apparatus	314

SURGERY OF THE HEAD AND NECK

Head	3 5
Neck	315

SURGERY OF THE CHEST

Chest Wall and Breast	3 6
Trachea and Lungs	317
Heart and Vascular System	3 7
Pharynx and Esophagus	317
Miscellaneous	317

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum	3 7
Gastro-Intestinal Tract	318
Liver, Pancreas, and Spleen	320
Miscellaneous	320

SURGERY OF THE EXTREMITIES

Diseases of Bones, Joints, Muscles, Tendons	
General Conditions Commonly Found in the	
Extremities	3
Fractures and Dislocations	3 1
Surgery of the Bones, Joints, etc	32
Orthopedics in General	322

SURGERY OF THE SPINAL COLUMN AND CORD

322

SURGERY OF THE NERVOUS SYSTEM

3 3

DISEASES AND SURGERY OF THE SKIN FASCIA

323

APPENDAGES

MISCELLANEOUS

Clinical Entities—Tumors, Ulcers, Abscesses, etc.	3 4
Sera, Vaccines and Ferments	324
Blood	324
Blood and Lymph Vessels	325
Poisons	325
Surgical Therapeutics	325
Electrology	3 5
Military and Naval Surgery	326

GYNECOLOGY

Uterus	326
Adnexal and Peritoneal Conditions	326
External Genitalia	27
Miscellaneous	327

OBSTETRICS

Pregnancy and Its Complications	327
Labor and Its Complications	328
Puerperium and Its Complications	328
Miscellaneous	328

GENITO-URINARY SURGERY

Kidney and Ureter	329
Bladder, Urethra, and Penis	329
Genital Organs	33
Miscellaneous	33

SURGERY OF THE EYE AND EAR

Eye	331
Ear	332

SURGERY OF THE NOSE, THROAT AND MOUTH

Nose	332
Throat	332
Mouth	332

CONSULTING EDITORIAL STAFF

GENERAL SURGERY—Continued

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OF THE ORIGINAL CONTRIBUTIONS WHICH ARE ABSTRACTED IN THIS NUMBER

- André 304
 Ashcraft L T 303
 Barthelmy 232
 Basham D W 45
 Bauer J 250
 Beck C 302
 Beck, E. G 258
 Beck, J C 310
 Beck S C 266
 Beckman, E H 35
 Beer E 305
 Berkeley C, 7
 Bernstein, H S 299
 Benley W A 252
 Beutner 281
 Bland Sutton, J 81
 Blackland A, J 25
 Bloodgood, J C, 266
 Boerma N J A F 293
 Bonj 75
 Bondy, O 270 288
 Bon A 75 88
 Bonney V 272
 Braun H 30
 Brehm, O 257
 Carnen J 7
 Carstens, J H 277 28
 Case J T 243
 Cawellberry W E 31
 Claik, J R 301
 Clardige G P C 52
 Clivio I 287
 Collier J A 262
 Crocen, H S 75
 Cruvelhuer L 305
 Cumberbatch E F 269
 Dartigues, L 74
 Davis, C B 251
 Day E W 31
 Dean L W 33
 Debra L 51
 De Garmo W B 40
 Depage, 249
 Duval, P., 248
 Essendath, D N 46 3 2
 Erdmann J F 24
 Fusterman, G B 24
 Fabre 78
 Faure 23
 Farrant K 32
 Farrar L K 76
 Farrell B P 6
 Fy O J 255
 Fehér A 53
 Foulkrod, C 294
 Frank L 29
 Frazer C H 23
 Freeman, L 34
 Gattelher, J 259
 Ghoreyeb A A 36
 Golant A J 63
 Gosset A, 34
 Graves, W P 285
 Guibe M, 245
 Gunew V 39
 Haines, W D 269
 Hancock J C 230
 Hanner R 268
 Harnar J A 290
 Harna, C H 260
 Hayes M R J 240
 Hazelhurst, F 239
 Heel K 287
 Henschel K, 29
 Heynemann, T., 294
 Hinman, F 307
 Hinselmann, H 295
 Hof titter R 296
 Huntington, J L 29
 Janeway H H 29
 Jyle, F 83
 Jonas W, 295
 Jones, D F 48
 Jones E O 35
 Jorgensen G 292
 Judd, E S 304
 Kanavel, A B 244
 Karsner H T 236
 Kawan R K, 241
 Mehler E, 292
 Lampton A R 69
 Kurmison, 258
 Kjolseth M 29
 Klemm P 53
 Kolb A 35
 Kostanek K 46
 Kretschmer H L 300
 Krotzneyer M 299 3
 Kudoh, 282
 Kuster H 297
 Lane, W A 47
 Lapham, M E 234
 La Torre 297
 Lajars, 298
 Lenormant C 275
 Lerche R 65
 Leppinane V D 30
 Less, 87
 Lewis, D D 25
 Lesner B 271
 Linkeld, J, 52
 Linzmeier G 295
 Little, E M 26
 Lloyd J H, 23
 Lockwood C D 245
 Loeb V 33
 Löfquist, R 296
 Lynch R C, 309
 MacGowan G 305
 Maragliano D 67
 M rion, G 306
 Massaglia A 287
 Masson, P 234
 Ma rer A 278
 M yer 40, 296
 M yo C. H 25
 McCurdy S L 312
 McD H J R 238
 McKimney, D R 31
 Melchor E 43
 Merl P 72
 Meyer L 275
 Meyer R, 293
 Miller R W 309
 Möllers, B 256
 Mosher G C 89
 Moskaleff M N 299
 Myer J S 240
 N cke 290
 V gel 290
 Niklas, F 96
 Nios F, 57
 Noyes, M L 5
 N it, J J 264
 Ogilvy C 6
 Optis L 85
 Out rb edge G W 286
 Pampanun G 284
 Pa ter H O 244
 Parceler A 243
 Parker C A 26
 Peltesohn, S 264
 Percy J F 253 66
 Petzold P M 239
 Pilcher P M 298 304
 Pncus, F 89
 Poensgen F 235
 Polgenoff A 260
 Polleson A 8
 Porter M F 8
 Froust R 78
 Pussep L M 31
 Quam F P 237
 Quenu E 59
 Raab H 73
 Randall A 305
 Redl ch 84
 Resch K 267
 Rich E A 267
 Ricketts, R M 90
 Radion J 54
 Rolite, A 56
 Rosenthal E, 288
 R bras-Duval 98
 Rubin I C, 271
 Rupert, R R 298
 Ryerson, E. W 260
 Saussa loff M 229
 Schäfer P 295
 Schlapoberski J 299
 Schlied H 306
 Schmidt, O 285
 Schmitz, H 276
 Schnoor E W, 246
 Schottlaender J 271
 Schröder H 297
 Schwarzwaller 289
 Segura E V 36
 Seidel, H 52
 Sellheim, H 254 287
 Sharpe W 26
 Simpley J D 26
 Skilern J P G 253
 Skilern K H 239
 Sluder G J 2
 Smithes, F 24
 Spaham, J K 26
 Stevens 300
 Stich, R 267
 Stoeckel 295
 Sunde A 295
 Samsa n, R 309
 T htschenko, E 29
 Temom 50
 Torek, F 237
 Tuffier 56
 Unterberger F 86
 Vaughan J W 268
 Vaughan R T 54
 Vent J 239
 Venot, H, 244
 Vignolo, G 247
 Violet, H 28
 Vogt E 292 293
 Von Herzan, V 284
 Von Mantreuff 28
 Von Mithalk vics, L 288
 Von Schrenck A 286
 Von Wagner J 33
 Wade H A 83
 Waeber A 89
 W rthun A S 293
 W ich J L 29
 Wertheim, 7
 Whitehouse B 277
 Whiting I 3
 W dertse S 70
 Williamson H 294
 Wilson, A C 306
 Wolfsohn, G 68
 Worthington T C 30
 Young H H 303

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MONTHLY COLLECTIVE REVIEW

THE PRESENT STATUS OF THE RÖNTGENOLOGY OF GASTRIC AND DUODENAL ULCER IN AMERICA

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THERE is probably no subject before the medical world, to-day of more absorbing interest than that of utilizing the röntgen rays as an aid in the diagnosis of gastro-intestinal diseases and certainly of the various lesions in which bismuth X ray methods are proving of value the greatest attention of recent days has been focused upon the detection of ulcers in the stomach and duodenum and their sequelae. While the original work in this field was instituted abroad and the principles laid down by foreign teachers were accepted by Americans as a working basis the considerable amount of work done in this country during the last three or four years and especially during the last year has developed an experience among individual American workers which guarantees their ability as competent observers and has materially added to the sum of our knowledge of the subjects. Not only have superior technical methods been developed but new radiological facts have been established, and the significance of radiological signs previously in doubt has been determined. In this particular field however there has continued to exist a wide difference in working methods and in the significance attached to several demonstrable points, so that it seems justifiable at this time to review the recent records with the idea of obtaining a composite point of view particularly of subjects or methods on which there is a divergence of opinion. Such a review should aid the general reader in obtaining a conception of the

present status of the röntgen method as applied to ulcer. It should aid the beginner in developing a system for his work, and it should act as a warning to the casual observer that the subject as a whole awaits definite settlement.

American writings on this subject are of comparatively recent date and are not so profuse but what a brief search in the library brings one into touch with them all. The method followed in this review is to dissect or analyze all available articles which go into detail and regroup chosen excerpts from various authors, under topical headings which appear quite constantly in all the texts. An attempt has been made to include enough of each author's statements to make his meaning clear and to avoid distorting his ideas by taking them out of their setting. To note each observer's method of handling the subject and to obtain the fullest significance of these excerpts one must refer of course to the original articles a bibliography of which is appended to this review.

GENERAL VALUE OF THE METHOD

How constantly in ulcer cases, can we elicit X ray findings which are of relative or absolute assistance in arriving at a diagnosis? How early in the course of the disease will these X ray findings appear? Will this depend considerably upon the location of the ulcer? Can we obtain more valuable data in cases of simple erosion or in cases where deformative conditions have re-

sulted? Is the roentgen method of more value in gastric or in duodenal ulcer? What is the significance of negative findings in gastric and in duodenal ulcer? Are the findings in ulcer cases sufficiently distinctive in their character to allow a differentiation from cancer and other conditions to be made by this method alone? What can we learn from our X-ray study which would be of value to the surgeon in planning an operation?

The following selected excerpts give answer to some or all of these queries

CARMAN. At the Mayo Clinic since instituting the roentgen method as a routine 93 per cent of cases of extrinsic cancer have presented changes recognizable by X-rays. In gastric ulcer the radiological diagnosis is less certain but even here approximately 85 per cent show diagnostic signs, and the percentage will probably be most easily increased in the future. Notwithstanding the numerous cardinal and characteristic radiological signs of gastric ulcer there is still present in 15 per cent of cases in which these signs are either absent or too indefinite to support a diagnosis. This is especially true of non-perforating ulcers in the pyloric antrum and on the anterior and posterior walls, and the shallow or superficial ulcers which have a relatively frequent occurrence. At present none of the roentgen ray signs of cancer or ulcer is pathognomonic.

FRANKS. The evidence of duodenal ulcer as shown by the roentgen rays, in the instrumental stage and, while important, is of less definite value than that obtained in gastric ulcer. (1) Characteristic gastric ulcer gives positive evidence shown by the roentgen rays. (2) In many cases its character is less certain and can be determined. (3) The history of the patient, the character of the ulcer, the history of the operation can be more definitely decided upon—whether gastric or duodenal, pyloric or local excision or if gastro-enterostomy decided upon the lowest. (4) The stomach can be determined by the rays. (5) Thus the best drainage may be obtained. (6) Some evidence of duodenal ulcer can be found. (7) The history and the clinical evidence should be considered together with the X-ray findings, and then a more accurate diagnosis.

LEWIS. The diagnosis of gastric ulcer by the roentgen method is one of the greatest advances. The accuracy of this diagnosis varies greatly with the extent to which the stomach has been involved in the pathological process. Simple ulcer involves only the gastric mucosa, is the most difficult to diagnose, diffuse callous ulcers of the fixed type are almost as difficult, penetrating ulcers that involve the muscular wall of the stomach can be recognized in a much larger percentage of cases. Perforating ulcers of the callous type can be detected in the majority of cases when proper technique is employed. Callous ulcers, with or without perforation, that have produced contractions of the stomach wall present the picture of benign hour glass contraction and are easily recognized.

CASE. In the great majority of cases the X-ray examination is likely to prove of great value especially when the findings are carefully studied in connection with other clinical data and differentiation between pyloric and duodenal or gall bladder lesions is frequently made possible. Although in certain cases, especially those of simple pyloric or duodenal ulcer, the X-ray findings

may not be significant of anything other than the normal.

In the present stage of development we are not justified in believing that the roentgen method of gastric examination constitutes an early method of detecting gastric or duodenal ulcer.

COLE. The negative or positive diagnosis of post-pyloric ulcer by serial radiography is equally as accurate as the radiographical diagnosis of renal or ureteral calculus.

CIORRE. The roentgen diagnosis of duodenal ulcer has not kept pace with the improvements in the diagnosis of gastric conditions by this method, in spite of the fact that the frequency of duodenal ulcer is much greater than that of gastric ulcer. This is largely due to the fact that the fluoroscopic method has been too exclusively employed in the study of the duodenum heretofore.

By the method of serial roentgen plates advised by Cole where the proper technique is employed to bring out the duodenum—especially the lateral view—we are able to state positively whether the duodenum is anatomically normal or pathological. By this method we cannot always distinguish between the effects of adhesions or cicatrization when both are due to old duodenal ulcer. We can, however, distinguish between adhesions due to duodenal ulcer and those due to gall bladder disease. By this method we can be more positive of the diagnosis of duodenal ulcer than we can be of most gastric conditions. The possibilities of error are not so numerous. A negative result with the serial plate technique and method is satisfactory as positive one, as it reflects very rules out the presence of surgical duodenal ulcer.

Of 5 operated cases, 59 were found to have duodenal ulcer either alone or complicated with gastric ulcer or with other conditions. In every one of these cases, except three, a pre-operative roentgen diagnosis was correctly made of duodenal ulcer or adhesions from ulcer.

ELSTROM. In the final analysis the X-ray diagnosis of ulcer of the stomach and duodenum is not and often cannot be made from the detection of any one point of evidence but is deduced from study of all the pathologic lesions and changes in function presenting to the roentgenologist. One single feature may give rise to a suspicion but it is a study of the whole that establishes the diagnosis.

FRIEDLWALD and BAETZKE. While the authors do not believe that this method is as yet sufficiently well developed to be relied upon alone yet they are confident that it often offers most valuable assistance as an aid in diagnosis, of quite as much practical value as any of the important symptoms of the disease and, taken in connection with other signs, is of the greatest diagnostic help. Curiously enough, the diagnosis of duodenal ulcer is much simpler than that of gastric ulcer. One can practically always rule out the presence of a duodenal ulcer but one cannot always rule out the presence of gastric ulcer. From their studies the authors have drawn the following conclusions.

1. The X-ray offers most valuable assistance as an aid in the diagnosis of peptic ulcer and although this method is not yet sufficiently well developed to be relied upon alone without entering into the clinical aspect of the disease it is of the greatest diagnostic help in obscure cases.

In duodenal ulcer there is an excessive hypermotility of the stomach with rapid evacuation of the contents so that the greater portion of the gastric contents is emptied within the first half hour there is hypermotility of the duodenum with formation usually of vacant areas which remain fixed in all of the examination.

3 The diagnosis of gastric ulcer can only be made in certain situations that is when the lesion is situated on the anterior surface of the stomach and along the anterior surface of the lesser curvature. There is in this condition an excessive irritation from the ulcer with a constant hypermotility and a spastic condition of the pylorus so that for the time being there is practically no expulsion of the bismuth. It is only when the spasticity relaxes that a portion of the bismuth is expelled. In gastric ulcer whatever the situation we can always look for retention of contents. In certain instances there is a vacant area in the pylorus there frequently tendency to hour-glass formation.

4 The X ray affords an almost absolute means of differentiating between gastric and duodenal ulcer.

5 By means of the X ray we can positively rule out the presence of a duodenal ulcer.

6 We can determine approximately the degree of healing of an ulcer which cannot be as certainly determined in any other way."

CHIEF DEPENDENCE PLACED UPON FLUOROSCOPIC OR RADIOGRAPHY

The following paragraphs show a wide difference in working methods used to obtain the same final data. While the most common practice includes a variable combination of screen observations and radiographs a portion of the writers would practically dispense with the use of plates and depend on screen findings alone. Others in an attempt to improve the accuracy of their findings, make screen observations only for the purpose of locating the exact field under suspicion and depend for their deductions on a multiplicity of radiographic plates.

LEONARD There is no question to which of these methods should be employed in the study of the gastrointestinal tract. Both have their advantages and both their sphere of applicability. Serial radiograms possess the great value of studying the varying phases of the passage of bismuth meal out of the stomach and through the consecutive portions of the gastrointestinal tract.

CASE The X ray examination is essentially fluoroscopic, radiograms being made only when required for purposes of record or comparison and when gall tones are expected.

CARMAN Both fluoroscopic and plate methods are used in the study of gastric ulcers. A marked preference is given to either one as the information obtained by each is somewhat different in character. These methods therefore are not competition and both are used in routine in every case. Most of the data however are obtained during the screen examination two or more subsequent plates acting as check up for confirming or amplifying the data previously obtained. On total screening time for patient very rarely exceeds five minutes, because lesions revealed by the roentgen ray are relatively gross are readily seen and appear quickly or not at all.

COLE The method of diagnosing post pyloric ulcer employed by the author in 500 cases, based on the recognition by means of serial radiography of constant deformity of the cap or sphincter caused by the induration or cicatricial contraction surrounding the crater of an ulcer. These findings can only be recognized by studying individual and collecting a large series of plates, and

either matching them over each other or reproducing them cinematographically. Where a positive diagnosis usually of extensive lesion can be made by roentgenoscopic serial radiography is unnecessary, but in all doubtful cases serial roentgenography is absolutely essential before one is justified in making a negative diagnosis of gastric or duodenal ulcer or carcinoma.

GEORGE We have employed the method of serial roentgen plates as first emphasized by Cole of New York. Plates are made at once after ingestion and at short intervals throughout the first hour. Most of the recent advances in gastro-intestinal roentgen diagnosis have of course been made in laboratories where the fluoroscopic method was largely if not exclusively used. The wonderful results achieved in the field of gastric diagnosis seemed sufficient reason for using the same methods in the study of the duodenum. The results, however, have not afforded any startling support for this idea. In questions of fixation of the duodenum by periduodenitis, the fluoroscope does play an important part.

SERVIER The most successful exponents of roentgenography require the fluoroscopic screen to judge the correct time for the radiographical exposures. But why take the time expense and inconvenience of the radiograph?

SYMPTOM COMPLEX AS OUTLINED BY HOLZKNECHT

Before proceeding to any recent American classifications let us review a number of symptom-complexes given out by Holzknecht in November 1911. These symptom groups include some clinical as well as radiological signs and were found to be the most constant evidences in a large number of cases of verified stomach disease. They were presented as outlines for study only and are not presumed to be comprehensive.

Symptom Complex I

- Bismuth residue after six hours
- Normal stomach shadow on the screen

3 Achylia

Diagnosis — Small carcinoma of the pylorus

Symptom Complex II

- N residue after six hours
- Marked defect gastric shadow

1 Horn-shaped stomach

Diagnosis — Carcinoma No stenosis Inoperable

Symptom-Complex III

- N residue after six hours

2 Marked defect of the stomach shadow on the paraspinal or paraspiloric

3 Horn shaped stomach

Diagnosis — Carcinoma of the stomach Operable

Symptom Complex IV

- Small residue after six hours

2 Sensitive pressure point over the stomach

3 Normal stomach shadow

Diagnosis — Simple gastric ulcer

Other symptom confirming this diagnosis are

1 A tipical

2 D placement of the pylorus upward and to the left

3 Seal form of the lesser curvature

4 Stable transverse contraction

5 Changing transverse contraction

Symptom Complex V

- 1 Small bismuth residue after six hours.
- 2 Pressure point

- 3 Displacement upward and to the left
- 4 Snail form of the stomach shadow

Diagnosis — Old contracting ulcer on the lesser curvature of the pars pylorica.

Symptom Complex VI

- 1 Small bismuth residue after six hours
- 2 Pressure point and resistance in the pars media

- 3 Transverse constriction of the pars media
- 4 D verticulum without air bubble in the smaller curvature, immovable.

Diagnosis — Callous ulcer of the pars media

Symptom Complex VII

- 1 Large sickle-shaped bismuth residue after six hours
- 2 Dilatation

- 3 Loss of tone

Diagnosis — Old stenosis of the pylorus due to ulcer

Symptom-Complex VIII

- 1 Large sickle shaped residue
- 2 Marked defect in the filling of the pars pylorica

Diagnosis — Carcinoma on the base of an old ulcer with stenosis

Symptom Complex IX

- 1 No bismuth residue after six hours

- 2 Marked defect in the shadow of the pars pylorica or pars media

- 3 Transverse constriction of the greater curvature

Diagnosis — Carcinoma on the base of an old ulcer with stenosis

Symptom Complex X

- 1 Stomach empty after six hours Head of the bismuth column in the splenic flexure of the colon

- 2 Shortening of the stomach

- 3 Contraction of the cardia

Diagnosis — Carcinoma of the pars cardiae

Symptom Complex XI

- 1 Stomach empty after six hours Head of bismuth column in the ascending colon

- 2 Stomach shadow normal

- 3 Pressure-point moving with the duodenum

Diagnosis — Ulcer of the duodenum

Symptom Complex XII

- 1 Stomach empty after six hours Head of the bismuth column in ascending colon

- 2 Stomach shadow normal

- 3 No increased peristalsis No hyperperistalsis

- 4 No sensitive pressure point

- 5 Hydrochloric acid normal

Diagnosis — Normal stomach

EVIDENCES OF GASTRIC ULCER

It is of prime importance to note carefully the classification of ulcer signs given out by an author for such an outline not only includes a summary of the signs included in his diagnostic complex but shows their interrelation and comparative importance. These outlines from recent American literature standing alone, are not intended to be taken as a formula for X-ray diagnosis,

but to show the author's point of view in handling the subject. The classification follows

Pflüger's Classification of Ulcer Signs

1 Evidence of perforation

- (a) A projecting shadow outside of the gastric shadow
- (b) A gas-bubble lying below this collection of bismuth

- (c) Perigastric adhesions or involvement of other organs

- (d) A palpable tumor connected with the stomach but not affecting the lumen

- (e) The above may be associated with either an organic or spasmodic hour glass contraction of the stomach

- (f) Retention of the bismuth in the ulcer after the remainder of the stomach has been emptied

- (g) Resistance corresponding to the projecting shadow

2 Evidence of irritation due either to a florid ulcer or to an irritant scar of an ulcer

- (a) Spasmodic contraction
- (b) Retention of food beyond six hours

- (c) Painful pressure point corresponding to the location of the ulcer

- (d) Normal outline of the stomach

3 Secondary effect usually associated with callous ulcer

- (a) Pyloric stenosis and gastrorectal
- (b) Fixation

- (c) Organic contraction hour-glass
- (d) Interference with peristalsis

- (e) Reversed peristalsis
- (f) A contracted lesser curvature with retraction of the pylorus toward the left

Ulcer Signs as Outlined by Carman

Signs which are cardinal and more or less pathognomonic

- (a) Visualization of the bismuth filled crater of a callous ulcer — the *waichen symptom*

- (b) The diverticulum of perforating ulcer
- (c) The *meusura*

Signs which are not determinative but merely suggestive of ulcer

- (a) Acute fish hook form of the stomach, with displacement to the left and down

- (b) Delayed opening of the pylorus
- (c) Localized pressure-tender point on the lesser curvature

- (d) Residue in the stomach after six hours.
- (e) Lessened mobility

- (f) Settling of the bismuth to the lower pole of the stomach, as is seen in hypotonicity or *tony*

Ulcer Signs as Viewed by Lockwood

- (a) Bismuth residue in the stomach six hours after the meal. May be due to spasm, tumefaction or slight cicatrization of the pylorus, or to atony

- (b) A displacement of the pylorus upward and to the left. With ulcers on the lesser curvature

- (c) Hour-glass contraction that appears in all of a series of plates suggestive of old cicatrizing ulcer

- (d) Distortion or displacement of the stomach by adhesions is suggestive

- (e) A small puckered area in which the rugae are distorted particularly when associated with a coincident pain pressure point

- (f) Clinical or radiographic evidence of hypersecretion
- (g) Reversed peristalsis indicating extreme spasticity
- (h) Radiographic findings of ulcer, involving the patency of the pyloric canal resulting in stenosis

CASES—Classification of Ulcer Signs

1. Definite X-ray evidences of ulcer (stomach and duodenum)
 - (a) Bismuth flecks representing ulcer craters filled with bismuth
 - (b) Filling defects or abnormalities in the stomach shadow
 - (c) Organic deformities of the stomach other than filling defects
2. Inferential evidence
 - (1) Spastic manfestations
 - (2) Abnormalities of peristaltic waves
 - (3) Abnormal emptying time of the stomach
 - (4) Unusual filling of the duodenum.
 - (5) Pressure pain points

INDIVIDUAL EVIDENCES OF GASTRIC ULCER

I Pyloric Stenosis and Gastric Stasis

Pyloric stenosis caused by ulcer leads to a gradual dilatation of the stomach except in those cases, as pointed out, where a hypertrophy of the gastric walls is able to compensate for a moderate obstruction at the outlet. From the following paragraphs a lucid idea may be gained of the radiographic picture seen in the atonic dilated stomach.

FRANKS "Pyloric stenosis is commonly due to a contraction resulting from a callous ulcer with which is associated a progressive dilatation of the stomach. This is recognized by its size and by the retention of food. This retention gives a characteristic basin like shadow at the lower pole of the stomach.

LEONARD "In uncompensated stenosis of the pylorus the residue is broad and drawn out in the form of a crescent, and extends to the right and left of the median line, while the shadow of the bulbous duodenum is far to the right."

CARMAN "A hypotonic condition of the stomach with settling of the bismuth to the lower pole while by no means constant; ulcer is found sufficiently often to warrant its inclusion among the suggestive signs.

CASE "Dilatation of the stomach of varying grades is a frequent finding in chronic gastric and duodenal ulcer. Marked gastric stasis without dilatation is suggestive of a malignant obstruction.

MILLS and CARMAN "In non-obstructive ulcer the stomach shows a degree of atony often unexpected from a consideration of the patient's habits. I marked pyloric obstruction the stomach occupies a wide central position if there be no compensatory hypertrophy of the gastric walls. This median position of the ectatic stomach is graphically shown in the position and form of the gastric residue, median position and crescentic outline.

ERLEY "The obstruction in the duodenum may be ever so marked, with very little change in the size of the stomach while pyloric obstruction leads invariably to hypertrophy and late to dilatation and extension to the right with horizontal level.

COLE "Pyloric obstruction causes unusually active peristalsis generally of the three- or four-cycle type, which forces the chyme against the greater curvature of the pars

pylorica dilating this portion and forcing it to the right giving it the prognathous 'undershot' appearance of a bulldog's jaw. Such local dilatation indicates lack of compensation of this portion of the stomach and calls for surgical procedure regardless of the cause of the obstruction."

II Retention of Food in the Stomach

Aside from the delay in emptying caused by the organic obstruction due to ulcer and aside from organic constrictions of the lumen of the stomach elsewhere pylorospasm may or may not result in abnormal retention. This spasmodic delay is shown to result also from extraventricular causes notably in disease of the gall bladder and appendix. The absence of gastric stasis has been proven for many cases of gastric ulcer.

The six hour limit for complete emptying is mentioned so frequently that it might be considered an accepted rule for all cases were it not for the fact that the normal rate of emptying varies in different individuals from two to eight hours depending upon the habitus of the individual and his attendant type of stomach. It is presumable therefore, that in the more atonic types of stomach a delayed clearance must be discounted.

CARMAN "Delayed opening of the pylorus following the administration of bismuth water, part from actual pyloric obstruction is almost invariably seen; ulcer of the stomach associated with hyperacidity. This delayed opening is also frequently seen as a reflex from disease of the gall bladder or appendix. A residue from the six hour meal may or may not be found in cases of ulcer. It has occurred in about 70 per cent of the cases we have examined so far. In our cases six hour residues were usually found with the perforating types of ulcer but were rarely seen with callous or simple ulcers.

CASE "Gastric, not pyloric, ulcer not necessarily associated with delayed emptying for in many gastric and duodenal ulcers the emptying time of the stomach after a bismuth meal is perfectly normal. In some cases bismuth has been found in the stomach 125 or 150 hours following the bismuth meal. Smith has recently reported over a hundred cases of gastric ulcer without delay in the emptying time. Ulcer of the body of the stomach rarely produces delayed motility.

LEONARD "In ulcers that lie in the pyloric canal or that encroach upon the diagnosis must be based upon the obstructive sign. The spasm of the pylorus is more marked. There is a decrease in the motility and a large residue of bismuth is left in the stomach after six hours."

LOCKWOOD "Unfortunately there are some instances of pylorospasm secondary to chronic appendicitis or irritative lesions of the gall bladder in which bismuth remains may be found in the stomach six hours after the meal.

FRANKS "If not accompanied by motor formation or otherwise normal stomach retention of food in the stomach is one of our most valuable signs of acute or chronic ulcer. With hyperacidity it is reasonable that each period of closure of the pylorus will be longer and as a result the passage of the food from the stomach will be delayed. This spasmodic retention of the bismuth meal beyond six hours has been found when the ulcer is located high, well

as low Retention of food beyond six hours rarely occurs in marked gastroparesis without ulcer."

MILLS and CARMAN "So far as ulcer is concerned delayed motility indicates either an organic pyloric obstruction or delayed clearance from non-compensated hyperacidity or hypersecretion."

III Location of Ulcer by Painful Pressure-Point

Although most writers mention pressure sensitivity over the gastric shadow as significant of ulcer especially where penetration has led to perigastritis, attention might well be directed to the detailed explanation of pain and tenderness in gastric ulcer as set forth in Mills and Carman's original article. In it we find the reasons for certain pain phenomena, which seem confusing if not paradoxical without them. The following symposium gives varied opinions on this phase of the question.

FRANKEL Painful pressure point may at times be located. If it is found to lie over the stomach and to move with the stomach shadow it points toward gastric ulcer.

CASE There is considerable value in my opinion, in palpation over the gastric shadow to localize the point of pain on pressure, but this pressure-pain point is not likely to correspond to the location of the ulcer unless there has been periduodenal or perigastric involvement with adhesions.

CARMAN The presence of a localized pressure-sensitive point on the lesser curvature is not very trustworthy as an indication of ulcer at that point. Many persons who have no ulcer are sensitive to pressure in the epigastrium. Further clinicians assure us that unless the parietal peritoneum is involved, as in penetrating ulcer for example, visceral lesions are not particularly painful to pressure. However such tender point if definitely localized is entitled to consideration in the final summing up.

LEONARD A point of tenderness on pressure may be felt corresponding to the position of the ulcer when it is situated anteriorly.

LOCKWOOD A small puckered area in which the rugae are distorted is even more suggestive of ulcer when the localization of the affected area coincides with that of local tenderness on palpation.

MILLS and CARMAN Ulcer of the stomach may exist and, in conjunction with it, a localized pressure-sensitive point. If such spot be present it may fall entirely without the X-ray shadow of the stomach and at the same time no other cause than ulcer be present to account for its existence. A definitely localized pressure point may exist that falls within the gastric shadow yet operation may reveal an ulcer in a distant locality. The tender point may coincide with the site of an ulcer as determined by the plate or screen and subsequently at operation ulcer be found in a corresponding situation. The pain and tenderness due to gastric ulcer may originate from a) or all of three causes. (1) General unlocalized pain, occurring at definite times after meals, is due to intragastric hyper-tension plus special irritability of the ulcer. (2) localized area of pain or pressure sensitiveness, as the result of reflex. (3) irritation of the parietal peritoneum by perigastritis secondary to ulcer.

IV Interference with Peristalsis

The study of motion in the stomach is accomplished most readily by the fluoroscopic method

Abnormalities in peristalsis are most likely to be intermittent and to require repeated though brief observations to disclose them. At one or another of these screen examinations a hyperperistalsis may be found and this is the preferred time to study the degree of elasticity of the stomach walls, the interruption of peristaltic waves, and the progress of food through the duodenum. This data may also be obtained from a suitably timed series of plates. The following authorities are quoted.

CASE When the depth of the peristaltic waves is increased, and when they appear more frequently than normal the inference is that there is some obstruction at the gastric outlet. Peristalsis waves may at one moment be practically absent and at other times so strong as to almost cut the stomach in two. It seems that this may represent periods of fatigue and periods of revived activity after recuperation from fatigue.

MILLS and CARMAN There are few inferences that we can draw from the variations of peristaltic motion such as there are chiefly connected with obstructing ulcer of the pylorus. Ulcer of the pyloric portion of the stomach if resulting in obstruction may manifest itself by most marked hyperperistalsis at some time during gastric digestion beginning high in the stomach and characterized by increased size in the peristaltic bulgings and the fact that two or three such peristaltic waves may be in progress at the same time.

FRANKEL Interference with the peristaltic waves will practically always be found when the ulcer is indurated. A wave may be seen on both curvatures then be interrupted at the location of the ulcer usually on the lesser while at the same time it may be seen to continue on the greater curvature.

ELLIOTT In conditions associated with pyloric stenosis, the stomach may fairly writh in its activity whereas no motion at all may be observed during periods of rest.

EASTMON If the ulcer is located at or near one of the curvatures of the stomach usually the lesser, within the contracting part there is absence of peristalsis at that point. It is an axiom that peristalsis is absent at the site of any pathological lesion of the stomach consequently it will be found that the affected area does not contract.

1. Reversed Peristalsis

There is still disagreement as to the frequency and significance of antiperistalsis. While it is a phenomenon which would seem easy to make out during screen examination no two writers exactly agree as to its bearing on the question of gastric ulcer. Some English writers consider it of so extremely rare occurrence as to be practically useless as a diagnostic sign. Haudel who has given this point a great deal of study and who originally considered it a sign of pyloric obstruction has gradually broadened his view until now he considers it a definite sign of gross disease of the walls of the stomach or duodenum. He finds antiperistalsis with considerable frequency. The following show the various conceptions of this sign.

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LOCKWOOD Fluoroscopy may show a reversed peristalsis, indicating an extreme degree of spasticity this is suggestive but not conclusive.

LEONARD Antiperistalsis is generally present in gastric ulcer.

PFÄHLER Reversed peristalsis occurs in connection with pyloric stenosis—more often with the organic stenosis, but may be seen in spasmodic stenosis of the pylorus. The waves of reversed peristalsis are of the same character as the direct.

CASE Antiperistalsis occurs with comparative rarity. Antiperistaltic waves are pathognomonic of an organic lesion near the pylorus and frequently point to ulcer. This phenomenon is best studied when the patient is lying supine.

ELLIOTT "Antiperistalsis is frequently seen upon the fluoroscopic screen the waves start in the antrum and disappear in the pars media. The exact significance of this phenomenon is not known; it frequently occurs in pyloric stenosis, but may occur independent of this condition."

VI. A Contracted Lesser Curvature with Retraction of the Pylorus to the Left

The several succeeding descriptions of this condition give the reader a concise picture of what is meant. This drawing of the pylorus to the left immediately suggests other mechanical conditions which displace the pyloric shadow one of which is mentioned below by Cole.

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LEONARD Since the favorite seat of callous ulcers is upon the lesser curvature the contraction of this scar tissue gives rise to a shortening in the length of the lesser curvature. Haudek has pointed out that this gives rise to a dragging of the pylorus to the left and has shown that difference can be noted in the shape and position of the residuum in the mass and in its relation to the bulbous duodenum.

MILLS and CARMAN Perhaps crook form would be more intelligible to us than mail form the stomach being apparently sharply bent on itself at the junction of vertical and pyloric portions. Carcinoma, strictly localized in the pyloric portion of the stomach gives a somewhat similar picture especially if the pars pylorica is obliterated.

COLE Extensive adhesions, involving the right side of the pars pylorica drawing that portion of the stomach to the right and straightening out the greater curvature the cap being of normal dimensions but angulated and the sphincter being normal suggest gall bladder infection with or without calculi.

VII. Perforating and Penetrating Ulcers of the Stomach

While much has recently been written in America on the subject of penetrating and per-

forating ulcer the point of view and treatment is essentially in correspondence with Leonard's statement as given below. The extracts following are selected to show such minor differences as exist and to amplify the subject for the reader's benefit.

LEONARD "The apparent rarity of the above mentioned ulcers is due to a lack of recognition rather than to the infrequency of their occurrence as shown by Haudek who first established their radiographic diagnosis. He has formulated their roentgenological symptom-complex and signs as follows:

1. A diverticulum-like projection from the stomach shadow usually on the lesser curvature.

2. Movability of the bismuth mass by palpation.

3. The persistence of bismuth shadow at this point.

4. A hemispherical collection of gas above the bismuth shadow.

5. The constant and marked contraction of the greater curvature of the stomach, at a point opposite to the shadow, approximating in form an hour-glass portion.

6. A displacement to the left of the pyloric portion of the stomach especially noticeable in males, with a perpendicular outline on the right border of the greater curvature.

7. A retardation of motility so that six hours after the ingestion of the bismuth meal a large amount remains in the stomach. This residue is placed to the left of the median line when the ulcer lies high.

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The symptom-complex for penetrating ulcer is the same as for perforating ulcer except that the symptoms are less pronounced.

It is of practical importance to remember that these ulcers while occurring most frequently on the lesser curvature, may be found in the anterior and posterior walls. During the examination therefore the patient must be rotated from side to side in order to bring ulcers in these positions to the profile of the stomach shadow. Although perforating ulcers are frequently found in connection with an hour-glass contraction of the stomach due to scar-tissue they are as frequently found without any hour glass contraction. The characteristic roentgen picture in penetrating ulcer varies markedly from that of perforating ulcer. Instead of the rounded diverticulum filled with bismuth and gas there is only a slight bud or spur-like projection from the profile of the stomach shadow.

CASE One rarely finds a persistent bismuth flock which can be proven to be a bismuth accumulation in the crater of an ulcer. The projecting shadow will be found to move up and down during respiration when the perforation is anterior in connection with the liver but it will be immovable during respiration when the perforation and fixation have occurred in relation to the pancreas. This hour glass deformity is usually partly spastic and partly organic, the spasm being due to gastric ulcer the organic changes being due to perigastric adhesions.

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FRANKL Retention of bismuth in the bed of the ulcer after the stomach is empty may occur even when no projecting shadow is present. This is true when the ulcer is on the anterior or posterior wall. I believe ulcer cannot be directly shown unless perforation to a considerable degree has taken place.

VIII Spasmodic Hour Glass Contraction

Here indeed is a sign mentioned by all the writers, where confusion exists as to its cause and significance when applied to an individual case. While frequently found opposite an ulcer and on this account considered of prime diagnostic import statements included herein suggest frequent causes for this spastic notch other than the irritation of circular muscle fibers in continuity and force us to reconsider the underlying method of its production. If as suggested it may frequently be the result of vagus irritations elsewhere, its importance in connection with gastric ulcer is correspondingly decreased. Even the effect of antispasmodics on these incursions is so inconstant that in an individual case the differentiation between the so-called pseudo-contractions the purely spasmodic contractions and the contractions partly spastic and partly organic, is difficult or impossible in an individual case. However the relative frequency of the sign and the ease with which it is observed guarantee a more satisfactory explanation of its bearing on gastric and duodenal ulcer in the near future.

CARMAN The incisure is an indentation of the greater curvature usually in the vertical portion of the stomach pars cardiaca or pars media, of varying width and depth. Its production is believed to be due to the irritation of the ulcer causing a spastic contraction of the circular muscle fibers in its plane. Perhaps, in some cases it is also due to infiltration and stiffening of these fibers. A true incisure is distinguishable from a peristaltic wave not only by its depth which is commonly greater than a peristaltic contraction, but also by the fact that it does not move pylorusward. It persists in spite of vigorous palpation and is not effaced after the administration of belladonna to the patient. True incisures occur not infrequently in which no ulcer or other organic lesion is found. They are probably due to spasm from reflex causes. In appearance they resemble true anastomoses but they often move pylorusward, and usually disappear on palpation or palpation or after the administration of an antispasmodic.

CASE 4714. Localized indrawing of the greater curvature seen seven to eight level of an ulcer in the stomach. It was formerly considered that this spastic indrawing was pathognomonic of gastric ulcer at the level of the pylorus but later experience has shown the incorrectness of this supposition. The writer reported sixteen operated cases in which such a spastic indrawing on the lesser curvature was proven by operation to be associated with well marked duodenal ulcer no gastric ulcer being found at the site of the indrawing. Among other conditions in which this sign has been noted and where anatomical proof has been afforded of the absence of ulcer on the lesser curvature

at the level of the indrawing, have been a number of cases of gall-stones carcinoma near the pylorus, pseudodiverticula, and Gravel disease. In fact, it seems that this spastic indrawing is a localized especially deep tonic constriction of the stomach the result of vagus irritation, and may be produced by any lesion with which causes vagus irritation.

FRANKL "Spasmodic hour-glass contractions commonly occur in connection with acute or irritable ulcers, even though there be no perforation projecting shadow nor retention of bismuth in the bed of the ulcer. Multiple deep spasmodic constrictions affecting both curvatures, may occur in neurotic subjects."

LEWIS The rapid onward movement of these deep peristaltic waves, although they nearly divide the stomach's contents, cannot easily be confused with an intermittent hour-glass contraction, when examined fluoroscopically although a radiograph may give this impression. Nevertheless, an intermittent hour-glass contraction due to a tonic contraction, and therefore a vagus stigma, from what source is not known is often encountered in just such cases under consideration as where no stomach lesion of any kind exists. That the contraction is spastic, even if lasting for some time, and not organic can quickly be determined. The true spastic nature of the hour-glass contraction may be revealed by letting the patient draw in his lower abdomen, by effluage or by atropine injections which influence the vagus. The hour-glass contraction, however need not be a sign of a fixed condition, as the pylorospasm seems to be. It is seen as well opposite the site of a fixed gastric ulcer as of an ulcer scar or it may be seen even at the point where an ulcer has been excised.

IX. Hour Glass Contraction

Being a definite deformity of the stomach it seems unnecessary to mention that a person in possession of the technical ability to elicit some of these other signs should demonstrate this one with comparative ease. Before we attempted other work on gastric ulcer and before we knew of spasmodic hour glass contractions the radiographical demonstration of organic hour-glass was well established. The former mistakes in diagnosis due to deep peristalsis spasmodic contractions and faulty position of the patient were excusable and yet to-day it is astonishing to see the prevalence of mistakes of this character. It is conceivable that in certain cases of malignant hour glass contraction no differentiation from a contraction following ulcer could safely be made by X rays alone.

ELLIOTT The more permanent the hour glass contraction is to location, the more certain it is to be evidence of a pathologic lesion in the segment of the contraction.

CARMAN "Organic hour glass contraction of the stomach usually but not invariably accompanies diverticulosis. Commonly the canal joining the two segments is short and near the end of the lesser curvature. Organic hour-glass is differentiated from spasmodic or functional hour-glass by the persistence of the former after energetic palpation or after the administration of belladonna for two or three days. Both these procedures, however may fail occasionally to relax a spasmodic hour glass. Organic hour-glass may also occur in penetrating ulcer without diverticulosis."

LEONARD The benign hour-glass stomach is the sequel of callous ulceration of the lesser curvature of the stomach. The contracting scar tissue draws the greater curvature of the stomach, that lies opposite to the ulceration over toward the thickened lesser curvature. It is because the ulcer is generally on the lesser curvature and the contracting tissue is drawn toward it that the connecting canal is typically found near the lesser curvature. In contrast to this the canal is situated centrally in malignant hour glass contraction.

COLL The constriction of the hour-glass stomach is usually narrow having the appearance of a ring, with clear cut edges. It resembles peristaltic contraction except that it does not progress pylorusward nor relax during diastole. The upper segment is large proportion to the lower one which corresponds size and shape to a normal empty stomach. The amount of chyme that collects in the lower segment depends upon the relative size of the constricting ring compared with the pyloric sphincter and the activity of its peristaltic contractions. A deep peristaltic or spasmodic contraction may so closely resemble an hour glass stomach that one is not justified in making a diagnosis of such condition unless in complete series of fourteen to twenty four radiograms are made preferably on subsequent days. In several cases much discredit has been cast on radiography because diagnosis has been based on only three or four radiograms and a deep peristaltic contraction has been mistaken for an hour glass stomach. In series of radiograms the real peristaltic contractions relax with each diastole and as they progress pylorusward they move up the constricting ring which remains stationary.

EVIDENCES OF DUODENAL ULCER

As in the consideration of gastric ulcer it has been thought most feasible to make use of the various writers original statements transferring them in as complete a form as possible and arranging them in topical groups so that a résumé of the best consensus of opinion possible may be obtained by a single reading.

If certain points pertaining to gastric ulcer have seemed to remain unsettled the whole subject of duodenal ulcer from the roentgenological standpoint will seem more difficult, unless we conceive that there may be two general systems of approaching the subject both of which are adequate. For we find running through all the appended material two general points of view of the entire subject each of which modifies all the statements of its advocates. Practically two schools of workers have evolved one studying bismuth filled viscera with the idea of noting all signs known to exist in duodenal ulcer the other specializing on the intimate configuration of the duodenal and adjacent shadows with the idea of showing radiographically the direct effect of the ulcer mass or its sequelae on duodenal outlines. The former school follows such a symptom-complex as is given below the latter pays more attention to the classification of types of duodenal shapes seen under varying conditions, and has

adopted several unique phrases to describe the gross and minute malformations which bear so strongly on their inferences. As will be explained the latter school insists upon a multiplicity of radiographs made in series, if not cinematographically.

The reader is therefore referred to the following material which is self-explanatory and gives the authors meaning much more accurately than any possible restatement.

FRASLER

- (a) Normal stomach shadow
- (b) Increased peristalsis
- (c) Normal pyloric outline
- (d) A painful pressure point over the duodenum
- (e) "Resistance at the pain point evidences callous ulcer"
- (f) A remnant of bismuth outside the duodenal outline associated with resistance and not easily movable, points to a penetrating duodenal ulcer
- (g) Constrictions and secondary dilatations not produced by adhesions from extraduodenal affairs
- (h) Occult blood in the stool in association with the above evidence would point to an acute ulcer

LOCKWOOD

- (1) Upward displacement of the pyloric end of the stomach fixing it in an oblique or horizontal position.
- (2) Intermittent pyloric contractions
- (3) Indentations of the cap not caused by the descent of the second portion of the duodenum
- (4) A shadow of bismuth remaining on the cap after the stomach and remainder of the duodenum are completely evacuated
- (5) Very rarely sharp contractions of the duodenum
- (6) Radiographic evidence of hypersecretion

GEORGE

- 1 Signs usually emphasized —
 - (a) Abnormally marked peristalsis
 - (b) Gastric hypermotility
- 2 Signs of varying value and occurrence —
 - (a) Persisting fleck of bismuth in upper duodenum
 - (b) Haudek's niche of penetrating ulcer
 - (c) "A tender point corresponding to the position of the duodenum"
 - (d) Stenosis of the duodenum with retention of bismuth
 - (e) Fixation of the pylorus and first portion of the duodenum.

All the above-mentioned signs, if present merely support the clinical diagnosis, but very rarely make it positive. We believe that the chief trouble in all this method up to now has been that too much reliance is placed upon purely fluoroscopic findings.

CASE

- (a) Abnormalities in the emptying time
- (b) "Changes in gastric tone"
- (c) Spastic indrawing of the greater curvature of the stomach
- (d) A subjective pain point corresponding with the shadow of the duodenum. Pressure pain-point.
- (e) Gastric peristalsis normal except for changes in rate and intensity. Astenperistalsis.
- (f) Fling defects in duodenal bulb
- (g) Persistent fleck of bismuth in the crater of an old ulcer
- (h) Duodenal stasis

EVIDENCES OF DUODENAL ULCER CONSIDERED TOPICALLY

I Emptying Rate of the Stomach

CASE If the meal has not been a large one the stomach may be entirely emptied within an hour when the meal is larger a delayed pyloric spasm may be set up and a small residue remains longer than six hours may remain. In the majority of cases quick emptying will be observed. Duodenal ulcer cases which do not exhibit this quick emptying are those where actual mechanical obstruction exists as by cicatricial constriction. Rapid emptying is also observed in cholera in perforated gastric ulcer with adhesions to the process in extensive gall bladder region adhesions and in early carcinoma of the pylorus, where an infiltrating process renders the sphincter patent but has not yet produced actual stenosis. Hypermotility at first with later delay is suggestive of duodenal ulcer.

LEONARD In superficial ulcer of the duodenum the emptying time of the stomach is normal or decreased, in contrast to the delayed emptying in cases of gastric or pyloric ulcer which produces a spasm of the pylorus.

FRANKEL (Cited in a statement) Not infrequently a bilious watery mixture passes through the pylorus immediately after taking either spontaneously or by effluvia which is in contrast to pyloric ulcer.

GEORGE The question of whether or not the status of the stomach after six hours, when the duodenal ulcer is active or cicatrized is no simple one. There is always a balance between nervous and mechanical forces, which varies from case to case and of such a nature that it is useless to attempt to predict from one case to another. Therefore while the presence of gastric hypermotility may help in diagnostically in case of suspected duodenal ulcer yet its absence, or even the presence of gastric stasis does not rule it out by any means.

II Changes in Gastric Peristalsis

CASE "In cases of duodenal ulceration the peristaltic waves may be perfectly normal. In cases of pyloric ulcer other than simple ulcer the peristaltic waves are usually exaggerated in depth and often in number. In both pyloric and duodenal ulcer the peristaltic waves proceed clear to the pylorus without hindrance."

LEONARD The peristalsis of the antrum is more marked in duodenal than in gastric ulcer and the pylorus opens more frequently.

GEORGE Abnormally marked peristalsis is an important sign if it is found. Fragmented peristalsis may be absent in many cases definitely proved to be duodenal ulcer.

III Changes in Gastric Tonus

CASE "The stomach is hypertonic or orthotonic in duodenal ulcer, but usually hypotonic or atonic in pyloric ulcer. Marked delay in the clearance of the stomach, associated with gastric dilatation is likely to be due to benign cicatricial obstruction in the majority of cases, pyloric obstruction with marked stasis without gastric dilatation is significant of a carcinomatous pyloric obstruction."

LEONARD "The stomach generally has the hypertonic form, the pylorus and greater curvature lying above the umbilicus. The stomach is not dilated in its lower pole as in gastric or pyloric ulcer."

IV Pain Points

CASE A subject pain point corresponding to the shadow of the duodenum is very significant. Pain or

pressure over the duodenal shadow is significant of duodenal adhesions, and, though often due to complicated duodenal ulcers may also be due to other causes, as, for instance,olecystitis. A case of uncomplicated duodenal ulcer probably will not exhibit any point of pain on pressure.

LEONARD A point of tenderness on pressure is located over the bulbous duodenum and the patient if asked to locate the point of pain, usually places the finger over this spot.

FRANKEL "A painful pressure-point may be found over the duodenum and it should move upward with the indrawing of the abdomen (Hauddrik). Resistance at the same location as the painful point is evidence of a callous ulcer."

FISKE "In duodenal ulcer a point of tenderness may correspond to the site of the bulbous duodenal shadow but this sign is only of value when it can be ascertained that the projected area belongs to, i.e. moves with the bowel."

V Spastic Manifestations

Here we find the observation by Case of a spasmodic contraction in the stomach not infrequently associated with duodenal ulcer as was mentioned under the discussion of such contractions in gastric ulcer. The frequency with which Case has seen this warrants him in setting it down as a new sign often associated with ulcer of the duodenum. In this connection he and Leonard make the following deductions:

CASE "A spastic indrawing of the greater curvature is often seen at the level of an ulcer of the stomach. It was formerly considered that this spastic indrawing was pathognomonic of gastric ulcer at the level of the spasm. In sixteen operated cases of duodenal ulcer this spastic indrawing high up on the greater curvature was noted. In other cases of duodenal ulcer this sign was absent or variable. In differentiating between spasm due to gastric ulcer and spasm due to duodenal ulcer it is observed that in duodenal ulcer there is no pain pressure point over the lesser curvature corresponding to the level of the spastic indrawing on the contrary there is pain in pressure over the duodenum and manipulation of the duodenal region increases the depth of the spastic indrawing."

LEONARD Spasms of the duodenum due to neurones produce transient symptoms that are characteristic of ulcer or mild stenosis, but it can be differentiated by their amenability to appropriate medical treatment.

VI Persistent Fleck of Bismuth in the Ulcer Crater

CASE Rare. More commonly the duodenal bulb retains a residue of bismuth for some time after the stomach has been emptied, but this residue is larger than the crater of an ulcer and does not except in rare cases, cling to the ulcer crater."

FRANKEL A remnant of bismuth outside the duodenal outline, associated with resistance and not easily movable, points toward penetrating duodenal ulcer.

LEONARD Penetrating ulcer of the duodenum is infrequent, and has addition to the symptoms of superficial ulcer the characteristic diverticulum outside the normal shadow of the duodenum, which persists as small bismuth fleck after the duodenum is empty."

GEORGE This sign sometimes of great value, but it is inferior to the more exact method of studying the duodenum that we describe later (serial radiography)."

COLE "Radiographs made from four to six hours after the ingestion of bismuth and buttermilk frequently show a deposit of bismuth in the cap after the stomach, the remaining portion of the duodenum, and the jejunum are completely evacuated. This retention is most often observed in cases where the appearance of the cap and the plates taken immediately after the bismuth meal is not normal. I believe that it is this retention in the cap which has frequently been considered an accumulation of bismuth on the surfaces of an ulcer. In some such instances an ulcer of the stomach or duodenum may exist and the absence of peristalsis in the cap due to adhesions will cause the accumulation."

VII Abnormalities in the Filling of the Duodenum

CASE "Where the duodenal bulb persistently fails to fill the indication is duodenal ulcer or penduodenitis, with resulting adhesions. The same has been seen in pancreatic carcinoma. Sometimes duodenal ulceration causes a persistent filling defect in the shadow of the duodenal bulb. Unusual filling of the entire duodenum is a frequent observation in cases of duodenal intonation not only in duodenal ulcer but in gall tones or penduodenal adhesions from any cause. This unusual visibility of the duodenum is an indication rather of a patent pylorus than of lag in the motility of the duodenum. When the cicatricial attending duodenal ulceration obstructs, the filling of the duodenum is very characteristic, marked distention of the duodenum being present on the upper side of the contraction."

LEONARD "A condition characteristic of all ulcers of the duodenum is the retention of the opaque chyme in it for a longer period than normal, as the result of mild stenosis, possibly spasmodic, at the duodenojejunal junction. Stenosis is characterized by an abnormal repletion and the presence of visible peristalsis and antiperistalsis. The character of the stenosis, whether it is spasmodic or cicatricial, due to pressure of bands from without, or the result of new growths cannot in the majority of cases be determined by the roentgen method."

FRANKER "Constrictions and secondary dilatations may result from the contraction of a callous duodenal ulcer but similar effects may be produced by other forms of adhesions, and therefore the evidence must only be considered confirmatory."

GEORGE "Stenosis of the duodenum may manifest itself by retention of bismuth. This is induced by cicatricial changes or spasm usually at some point in the transverse portion. The great majority of duodenal ulcers occur in the first portion of the duodenum; therefore this particular sign is of no value in most of the cases."

ESSEX "If the obstruction therefore is nearer the pylorus and within the first superior part of the duodenum, the principal factors upon which to rely are the aforesaid phenomena of an overactive stomach, an open insufficient pylorus and constantly filled bulbous duodenum. When the stenosis has become complete there is sometimes seen from the pylorus a continuous finger-like projection to the point of stenosis, which as said a radiograph will plainly reveal. That there is really a spasm at the site of or directly above, a fixed ulcer has not been definitely proven."

VIII Constant Changes in the Configuration of the Duodenum

ELLIOTT "The bulbous duodenum has a constant and definite appearance upon the plate during the systole of the pyloric end of the stomach, any variation of which within normal limits should receive due consideration in the interpretation of the plate."

GEORGE "What we are able to recognize in the duodenum is not the duodenal ulcer *per se*, that is, the actual mucous membrane erosion, but we demonstrate on the bismuth mass of cicatricial contraction, stenosis, perforation, adhesions and penetrating effect of a chronic ulcer."

COLE "The induration surrounding an ulcer projects into the lumen of the cap causing displacement of bismuth as constant as one's finger prints in a ball of putty. It may be so small that its projection presents only a constant dent in one side of the cap or it may be so extensive as to distort the lumen of the cap beyond recognition. The induration may involve one-half of the cap without distorting the other half. In such a case the entrance of the lumen of the pyloric sphincter is an important guide in determining the center of the cap. The puckering from the cicatricial contraction may cause a deformity equally as great as the induration. Indeed it is doubtful if one can determine radiographically whether the deformity is due to induration or adhesions, or which predominates. If one radiograph out of fifty shows a perfectly symmetrical cap and normal pyloric sphincter as previously described, one is justified in making a negative diagnosis of post-pyloric ulcer. If the cap is contracted and worm-eaten, but not drawn to the right, and the duodenal surface of the sphincter is irregular, duodenal ulcer should be considered."

CASE "Defects of the duodenal bulb constitute one of the chief roentgenographic means of recognition of duodenal ulcer and its complications. Filling defects in the duodenal shadow to be interpreted as ulcer should be differentiated from the normal defects due to hepatoduodenal ligament and the deformities of the bulb due to extra-duodenal pressure, as for instance, gall bladder blood-vessels second portion of the duodenum, etc. The defects due to gall bladder region adhesions are very characteristic. The defect occurs on the gall bladder side of the bulb shadow but the bulb is otherwise anatomically normal."

EASTMOND "When the ulcer is old the adhesions or cicatrization will produce marked irregularity in the outline. This irregularity is constant and persistent and is seen by preference on the left side in distinction to the right-sided adhesions in gall bladder disease but they may be general."

COLE "The manner in which the cap lies between the gall bladder on the right and the common duct on the left, and the fact that slight adhesions prevent its normal distention must always be borne in mind. When the adhesions involve the cap only it is asymmetrical, contracted, ragged or absent. Frequently small indentation is observed either on the right or left side of the cap. This may be caused either by pressure from the second portion of the duodenum where it descends from the top of the cap, or by the common bile duct which is in close proximity on the left. This indentation might readily be mistaken for an ulcer of the duodenum."

RÉSUMÉ DEVELOPS INTERESTING FACTS

A survey of these excerpts brings to light the following facts:

1. In the hands of a competent and experienced observer the roentgen method may be of considerable service in the diagnosis of gastric and duodenal ulcer.

2. The majority of observers obtain their data by the combined use of the fluoroscopic screen and the radiograph.

3 There is as yet a sufficiently wide divergence of opinion concerning the diagnostic value of certain signs as to make the reader cautious in accepting the present views as final

4 There is more perfect agreement on the radiological signs due to the mechanical deformities from callous ulcers and their sequelae than on signs due to the irritation of florid ulcers or the irritable scars of ulcer

5 The lesions accounting for a spasmodic undrawing of the greater curvature are becoming more numerous Is there an underlying etiological factor which will explain all cases?

6 In the study of the duodenum there have developed two schools of workers one the followers of the European writers, which takes cognizance of all demonstrable changes in motility mobility and configuration due to duodenal ulcers and their sequelae second headed by Cole who believe that all post-pyloric ulcers produce such an effect upon the duodenal walls as to make persistent changes in the configuration of the duodenal shadow This is to be recognized by a study of a considerable series of radiographs

7 While it is generally admitted that the radiology of the duodenum is incomplete it would appear from the above citations that the percentage of accurate inferences regarding duodenal ulcer was greater when the method of serial radiography was used

The literature would indicate that there will be no cessation of interest in this field during the present year We therefore anticipate a great deal of progress and perhaps a final settling up of some of the disputed signs

The next contribution of which we have knowledge will be from Carman in which he will present the radiology of duodenal ulcer with data from a large number of cases operated at the Mayo Clinic

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ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

ASEPTIC AND ANTISEPTIC SURGERY

Frank L.: The Use of Iodine in Abdominal Surgery. *Am J Obst N Y* 1913 LXV, No 5.
By Surg Gynec & Obst

Frank concludes from experimental work which he has carried out on dogs that iodine should never be used inside the abdomen because it is toxic and produces adhesions and that when it is used for preparation of the abdomen the intestines should be protected from contact with the skin so treated to prevent adhesions forming

N SPROAT HEANEY

Saundershoff M and Telitschenko I: Alcohol Dressings (Über Spintusverbände). *Vsch Gek* 1913 XX, 2206.
By Zentralbl f d ges Chir u Grenzgeb

The authors carried out a series of laboratory experiments to determine the disinfecting properties of alcohol. They found that various kinds of bacteria such as tuberculous anthrax etc which were kept for as long as 24 hours under alcohol and then put in bouillon showed abundant growth those kept in 70 per cent alcohol showed the least growth. In another series of experiments they found that the addition of a little 10 per cent alcohol to the bouillon prevented all bacterial growth the same result can be obtained by the addition of 5 per cent alcohol and 0.01 per cent iodine to the bouillon.

The skin of several physicians and hospital attendants was washed with alcohol and small bits of the skin placed in a nutrient medium, only in the case of one laboratory assistant was there any growth of the bacteria in 20 per cent of the experiments with him there was growth.

From these experiments the authors conclude that alcohol is not a disinfectant in the sense of absolutely killing the bacteria but that it hinders their increase and growth. After the conclusion of these experiments the authors tried alcohol dressings. They were used at first only on small wounds later on large ones. A few patients complained immediately after the application of the dressing of a burning pain in the wound but this soon disappeared. In the course of two years over 10,000 alcohol dressings were used with excellent results. Large and small infected wounds healed by first intention without suppuration some necrotic

pieces of skin resulting from trauma were mummified without undergoing suppuration or putrefaction and infected wounds which were sutured recovered by first intention under the alcohol dressings. Suppurating wounds became clean very quickly especially when the alcohol was brought into contact with the whole suppurating surface. In this event however the formation of granulations was somewhat delayed. The technique is given as follows: The wound itself and the surrounding skin are carefully cleansed with gauze dipped in alcohol, and then four to twelve layers of gauze dampened with alcohol are laid over the wound and covered with paraffin paper, after this linen bandages are applied as usual. The dressing is left on from one to two days.

The authors emphatically recommend alcohol dressings in infected wounds and in cases where circumstances prevent the carrying out of absolute asepsis.

VON HORSY

ANÆSTHETICS

Janeway H H: Intratracheal Anæsthesia from the Standpoint of the Nose Throat and Oral Surgeon with a Description of a New Instrument for Catheterizing the Trachea. *Laryngoscope* 1913 XXIV, 1032. By Surg Gynec & Obst.

The author refers to the value of intratracheal insufflation in nose throat and oral operations, pointing out the utter inadequacy of the old methods by inhalation from any kind of cone and points out that the advantage of insufflation is not merely convenience to the operators but that it is an even and safer anæsthesia. He shows that pharyngeal insufflation (nasal or oral) has the same advantage and is usually much preferable to rectal anæsthesia, judging from the limited use of the latter. It has simplicity to recommend it while in intratracheal insufflation in spite of its greater complications and the skill required in its administration it has in its favor the steady outflow from the trachea of the air current helping to prevent inhalation of blood and mucus. Intravenous anæsthesia the newest attempt to accomplish the ideal method for these operations has much to commend it.

The aim of the article is to introduce for overcoming the chief difficulty in intratracheal insufflation a new speculum for catheterizing the trachea.

This is a tubular speculum, electric lighted from dry cells in the handle developed apparently from the Jackson bronchoscope and having just enough curve of the distal (laryngeal) end to allow inspection of the larynx while the catheter is slid through it into place. This inspection is provided for by an indirect method with one instrument a small mirror reflecting the image and allowing a considerable curve in the speculum but with another instrument by a direct vision of the larynx thus being an advantage though the curve of the instrument is less for direct inspection of the larynx is very important before catheterizing.

To emphasize this he describes some features of his intratracheal apparatus which is equally adapted for ether or nitrous oxide and oxygen. The anæsthetic vapor introduced directly from the apparatus to the trachea is vaporized warmed and moistened. Automatic interruption of the current providing for periodic deflation of the lungs the relative amount of ether used is controlled both by the air passing above the ether and if desired through it. A modified form of apparatus is suggested to provide one small and portable for universal use. One of the useful fields for intratracheal insufflation is gastroscopy as well as bronchoscopy for a smooth anesthesia is here indispensable for the best work.

FRANK W. PIERCE

Hazelhurst F. The Kuhn Method of Peroral Narcosis. *Laryngoscope* 1913 xxi, 109.
By Surg. Gynec. & Obst.

The author adds his experience with nine cases to the others recorded in using Kuhn's metal tube for operations about the mouth and nose. This method of intubating the larynx for anesthesia first published by Kuhn in 1900 is with a flexible metal tube of unique type having a firm handle held in one hand while with the other an intubator resembling O'Dwyer's inserted through the

tube introduces the latter into the trachea and is then withdrawn. The results showed no injury to mucous membranes no hoarseness, occasional but transient soreness of throat and a satisfactory anaesthesia. In one case of a child, the tube being too large caused obstruction to respiration and was abandoned.

FRANK W. PIERCE

Braun H.: Use of Potassium Sulphate to Strengthen the Local Anæsthetic Effect of Novocaine (Über die Potenzierung der örtlichen Novocainwirkung durch Kaliumsulfat). *Zentralbl. f. Ch.* 1913 xl, 1313.

Hy Zentralbl. f. d. ges. Ch. u. Grenzgeb.

The author performed a series of experiments on himself and confirmed Kochmann's and Hoffmann's assertions that the anæsthetic effect of novocaine is markedly increased by the addition of potassium sulphate. He does not however agree with Hoffmann's opinion that with the addition of potassium sulphate a 0.1 per cent solution of novocaine becomes as effective as a 0.5 per cent solution without it for the anæsthetic effect of the former is much less and is not so reliable. He recommends, therefore that potassium sulphate should be added to the solution, but that the concentration of novocaine should be the same as usual. Only in cases where very large amounts of the anæsthetic is used the concentration may be reduced to 0.25 per cent. Novocaine poisoning need not be feared even with the stronger concentration provided one bears in mind the readiness with which suprarenin is decomposed and uses only fresh solutions. Beginning decomposition of the suprarenin is manifested by the red color of the solution. Four per cent of potassium sulphate should be added. If Höchster's novocaine suprarenin tablets are used they should be dissolved, not in physiological salt solution, but in a solution of 7 parts salt 4 parts potassium sulphate, and 1000 parts water.

TRACER.

SURGERY OF THE HEAD AND NECK

HEAD

Worthington T. C. Empyema of the Frontal Sinus with Exposed Dura Cured by Obliteration of the Sinus. *Laryngoscope* 1913 xxi, 673.
By Surg. Gynec. & Obst.

A case is described in which the patient aged 35 had had trouble with his nose as long as he could remember viz. difficult nasal respiration especially on the right side with a great amount of mucus from the nose and nasopharynx. For over two months previous to the operation he had suffered from attacks of vertigo. A radical operation was performed the sinus showing evidence of chronic disease. Near the upper margin of the posterior wall the dura was exposed over an area one fourth by one-half inch in extent. The wound had healed by granulation and the sinus had become obliterated 225 days after the radical operation had been per-

formed. The author calls especial attention to the fact that nasal irrigation was not used at the time of operation owing in his opinion to the danger of the irrigating fluid entering the orbit.

In conclusion it is stated that this case shows the necessity of radical treatment of nasal accessory sinus disease as repeated small external openings performed previous to the radical operation had given no relief. He reports the patient as well a year after the treatment.

W. H. JAMESON

Skiffern R. H. Untoward Results Following the External Operation on the Frontal Sinus; a Critical Review of Twenty Cases. *Laryngoscope* 1913 xxi, 663.
By Surg. Gynec. & Obst.

The results are taken from all the cases which had come under the care of the author. The Killian operation having been performed in each case.

The untoward conditions which may follow the operative procedure are enumerated viz

- 1 Edema of eyelids particularly the superior
- 2 Paralysis of the upper lid
- 3 Continuation of the discharge
- 4 Fistula or abscess formation
- 5 Hemispherical anesthesia
- 6 Neuralgia — (a) local (b) hemispherical
- 7 Deformity — (a) sinking in of forehead (b) contraction of scar (c) falling in of eyebrows (d) excessive growth of eyebrows (e) keloid
- 8 Formation of pneumatocele
- 9 Temporary and permanent diplopia
- 10 Blindness on operated side

1 Edema of the eyelids occurred in every case and in one case with tuberculous history it was permanent and of a recurring nature

2 Paralysis of the upper lid was present in every instance immediately after the operation, and in two cases it showed a disposition to become permanent

3 The length of time the discharge will continue he considers depends largely on the extent of the surgical intervention. This discharge gradually diminishes in amount and consistency and in 50 per cent of his cases continued indefinitely despite frequent application of the various silver preparations

4 Fistula and abscess formation are classed as primary and secondary the primary occurring before healing the secondary being those resulting from reinfection and appearing long after the external incision has healed. He reports two cases of primary and three of secondary resulting in abscess formation along the line of incision. Necrosis and breaking down of the ridge of bone did not occur in any of the cases

5 Hemispherical anesthesia occurred in every case due to the severance of the supra-orbital nerve. This was accompanied by varying degrees of discomfort the complaints being limited entirely to the females. Sensation returned in every case the time required for the process varying markedly six months being sufficient in the majority of cases. According to the author there appears to be some connection between the duration of the anesthesia and subsequent neuralgia and he thinks that in all the cases in which the hemispherical anesthesia was unduly prolonged neuralgic manifestations subsequently appeared

6 He considers neuralgia as one of the most annoying sequelae. It occurred in seven of the series but in only two cases were the symptoms severe enough to require surgical interference. In one despite resection of the nerve the neuralgia recurred

7 In the classification of the series there were thirteen practically undeformed in four there were slight depressions over the operated eyes and some contraction of scar tissue along the descending incisions, due to reinfection. In two cases the result was not quite so good one due to a marked depres-

sion above the eye the other to a persisting edema. Another case showed considerable deformity due to the depression and scar tissue contraction as a result of tearing of the skin during the operation

8 The formation of pneumatocele in two cases was noticed on blowing the nose at the time of the first dressing. Firm bandaging caused this to disappear

9 Diplopia was present in fourteen of the cases on removing the first bandage this disappeared in the majority of cases in a few days. In eleven the diplopia had completely disappeared at the end of one month in one case it lasted for nearly four months and in two it appeared permanently

10 Blindness on the side operated on occurred in one of the latter cases in which the disease involved the frontal entire ethmoidal and sphenoidal sinuses. There was nothing unusual noted regarding the operation and it was only on removing the first dressing that the eye was discovered to be sightless. The blindness was permanent. The author advances as possible explanations (1) Fracture into the optic foramen (2) the optic nerve may have become surrounded by an extravasation of blood which became organized (3) a dehiscence may have existed in the sphenoidal sinus and the optic nerve sheath was injured while opening the sinus he considers the latter the most plausible explanation. He refers to two similar cases reported by Knapp and Freudenthal and reviews the cases in detail. W H JAMESON

Pussep L. M. Radical and Palliative Methods of Operation for Brain Tumors Based on 24 Cases by the Author (Die radikalen und palliativen Operationsmethoden der Hirntumoren auf Grund eines eigenen Materials von 24 Fällen) *Verhandl d XII Kongress Chir* 1913
By Zentralbl f d ges Chir u i Grenzgeb

The author reports 24 cases of his own operated on during the last two and one half years. Very recent cases two months or less after the operation are not reported. Radical operation was performed 15 times 5 times trephining was done for decompression and in 2 of these cases there was permanent drainage of the ventricle. In the cases of radical operation the tumors were localized as follows 2 in the motor cortical region 1 in the centrum semiovale 1 in the temporal lobe and 1 (a cyst) in the pineal gland. Once there was a diffuse tumor formation noted in the dura and cerebral cortex.

There were five cases of operation for tumors of the cerebellopontine angle. There were two tumors of the vermis of the cerebellum and one of the pons and the left hemisphere of the cerebellum. As to the character of the tumors there were one endothelioma 1 glioma 8 sarcoma 1 carcinoma, 3 cysts and 1 fibroma. The radical removal of the tumor was accomplished in 11 cases of these 6, or 55 per cent recovered. One of these however died five weeks after the operation. Of 4 tumors of the cerebrum 1 died of pneumonia three weeks after

the operation of 6 tumors of the posterior fossa 4 died. In cases where there is great pressure on the brain and radical removal cannot be considered Pussep recommends permanent drainage of the ventricle according to the method described by him.

He comes to the following conclusions:

Even deep seated tumors may be removed radically if they can be accurately localized. In tumors of the cerebellopontine angle the removal of the bone is to be preferred to the osteoplastic method, as the mortality is less. Tumors of the pineal gland are accessible to operation.

Pussep believes that palliative operations should be decreased in favor of radical ones and that operations in the posterior fossa of the skull should be performed in two stages even if the general condition is good but that operation in one stage is preferable for the cerebrum. Hæss.

Frazier C. H. and Lloyd J. H.: A Case of Tumor of the Hypophysis, Partially Removed by the Transfrontal Method of Approach. *J. Am. M. Ass.* 913 1st 1926. By Surg. Gynec. & Obst.

The hypophyseal case here presented is noteworthy because of the absence of a distinct cachexia of either acromegaly or of dystrophia adiposogenitalis, but with pressure symptoms, manifested by blindness with headache and vomiting and presenting under the X ray evidence of a pituitary tumor. Pain in the limbs was an unusual feature and the authors conceive it to be due to pressure on the pain tracts by the pituitary lesion.

When preparing for the transfrontal approach to the hypophysis the size of the frontal sinuses is studied by transillumination and the roentgenogram though the latter has been found unreliable. The smaller was selected and an incision was made following the supra-orbital ridge from the external angular process to the median line. The second limb extended upward in the median line one inch within the hair line and the third ran within the hair line to a point on a level with the external angular process. An osteoplastic flap was then reflected and the frontal lobe exposed the latter being retracted upward and a wedge-shaped section of the supra-orbital ridge was removed. The balance of the orbital roof was removed with rongeur forceps down to the optic foramen and the dura incised a distance of 0.5 cm above the base of the skull from one anterior clinoid process to the other. A soft reddish mass was found filling the sella turcica and this was in part removed. The bone flap was then replaced and the external wound closed.

Histologically the tumor proved to be sarcoma with telangiectatic characteristics. During convalescence there was marked edema of the face, and pain was present in the extremities and thorax for two weeks. The blood pressure which was low was not affected in the slightest by either pituitary extract or epinephrin in continued and ascending

doses. The advanced state of optic atrophy precluded any improvement in vision.

The authors wish to emphasize the advantages offered by the transfrontal route in the facility of exposure the opportunity of determining with some accuracy the extent of the tumor the avoidance of contamination by the nasal secretion and the splendid cosmetic results. F. K. Thompson.

NECK

Barthélemy and Fairise: Branchial Epithelioma Involving the Submaxillary Glands (*Epithélioma branchial du cou incl. dans la glande sous-mandibulaire*). *Rev. méd. de l'Est* 9 3 11 1921. By Journal de Chirurgie.

Barthélemy and Fairise report a branchial epithelioma involving the whole submaxillary gland in a man of 48. The tumor which was as large as a pigeon's egg had been noticed two months before and diagnosed as adenitis. It was incised and found to be filled with a liquid resembling pus, but there was no solid tissue and no cystic wall. The cavity was curetted but very soon ulceration began. It extended rapidly and seven months after the first appearance of the tumor the patient died of pharyngeal hemorrhage.

Examination of the material obtained by curettage showed an epithelioma of the intraglandular pavement type. As there is no epithelium in the submaxillary which could give rise to a pavement epithelioma it must be assumed that it was of branchial origin.

Intraglandular branchial epitheliomas are very rare. The authors could find only one other authentic case that reported by Fredet and Chevasu in the parotid. In a great many other cases reported there was only secondary invasion of the gland. The real branchial epitheliomas develop from the epithelial debris of the primitive branchial cleft.

This case shows the extreme malignancy of these tumors, which ulcerate and extend very rapidly and are accompanied by a very intense inflammation. It also shows the necessity for early extirpation of small tumors of the neck which are generally diagnosed as adenitis and are sent to the surgeon only when malignancy is so far advanced as to make extirpation hopeless. Though they are often only glandular still they are sometimes branchiomatous. They may be benign even then if they are mixed branchiomas that is, if they are derived from the branchial arches which give rise to complex connective tissue tumors but they may be excessively malignant if they are branchial epitheliomas that is if they are derived from the branchial clefts.

J. Desnoes.

Farrant R. Hyperthyroidism Its Experimental Production in Animals. *Brit. M. J.* 9 3 11 1923. By Surg. Gynec. & Obst.

Thyroid feeding was carried out in cats, rabbits, guinea pigs and dormice. Fur changes were pro-

duced loss of weight bodily weakness diarrhoea tachycardia occasional glycosuria disappearance of fat muscular wasting degeneration of the heart liver and kidneys enlargement of the islets of Langerhans and hemorrhagic changes in the intestine. No exophthalmos was produced and no changes were produced in the ductless glands or lymphoid system.

M S HENDERSON

M S HENDERSON

Von Wagner J Surgical Treatment of Hypothyroidism (Über chirurgische Behandlung des Hypothyreoidismus) *Wiener klin. Wochenschr.* 913 xxvi 1912 By Zeitschr. f. d. ges. Chir. u. Grenzgeb.

In experimental transplantation of thyroid glands Schiff the experimental founder of the theory of hypothyroidism showed on dogs that the thyroid gland transplanted from other dogs can for a while take the place of the one removed though after a time the transplanted gland is absorbed Von Eiselsberg obtained results in cats only when he operated unilaterally that is he first removed the thyroid on one side of the neck and transplanted it somewhere else and then after some weeks extirpated the other half Tetany occurred only when the transplanted gland was afterward removed Later experiments showed that the transplant took only when it was from the same animal — auto transplantation It has not been proved with certainty that even in autotransplantation the transplanted gland remains capable of functioning Accessory glands and the necessity of a long time for observation complicate the question Cristianini gave an indirect proof of it by showing that a part of a gland transplanted successfully into the transparent ear of a rat hypertrophied when the other half was removed

Kocher's attempts in cachexia strumpriva to transplant human or animal thyroids intraperitoneally or extraperitoneally (heterotransplantation) resulted in only transitory improvement of the symptoms. Birchler too twice transplanted a human thyroid on a 20-year-old girl with only temporary results. The pieces of thyroid never functionated but only caused temporary improvement by the substance being absorbed. This fact suggested to Murray the idea of treating myxoedema not by transplantation but by subcutaneous injection of a glycerine extract of the gland which could be absorbed. This was the starting point of internal thyroid therapy. Autotransplantations in human beings take and after a long time, show normal histological structure of the gland (Cristiani). Therapeutically however the results are not good. Von Payr reports the most successful case in which he transplanted the thyroid gland of a mother into the plexus of a child with infantile myxoedema. There was rapid improvement at first but it did not continue.

The résumé of results shows that heterotransplantation generally fails, and that autotransplantation would have an object only in total extirpation

of a goiter. Since such a procedure is only resorted to in case of malignant new growths, autotransplantation cannot be considered in these cases.

In the consideration of operative measures on the thyroid gland the authors point out that in the partial resection of an exophthalmic goiter more glandular tissue often remains than is possessed by a normal man. There are cases of exophthalmos however without a large goiter. It is not correct to assume that the amount of secretion is decreased in proportion to the size of the piece of gland removed. As a matter of fact there is sometimes a degeneration of the remaining tissue after operation and it must be assumed that the stimulus which led to the hypersecretion is overcome by the operation. On the other hand in simple goiter (not Basedow's) where it would seem that hypertrophy would take place to compensate for functioning tissue removed there is also a decrease in the size of what is left. Here it would seem that conditions are brought about by the operation that render the remainder of the tissue capable of functioning. Simple surgical operations, without extirpation such as separating the isthmus by Sydney Jones a method seem also to give rise to a stimulus which causes a decrease in the size of the goiter. This is to be explained by the fact that there are cases of goiter in which hypothyroidism exists (Leopold Levy Rothschild). Observations should be made to determine whether on operation of such cases the hypothyroidism disappears. Cases of Poncet Neudörfer and Cathcart seem to show that it does as well as some of the author's experiments on dogs who were cretins. The author proposes in myxedema with goiter infantile myxedema and endemic cretinism to bring about by operation a change in the condition of the gland that will conduct the secretion into normal channels.

Вспомогательные

Jones E. O. A Method of Controlling Hæmorrhage in Thyroidectomy *Surg Gynec & Obst.*
1913 xvii 642 By S rg Gynec & Obst

In a small percentage of thyroidectomies unusual difficulties caused by profuse hemorrhage are encountered. The superficial location of the superior thyroid artery renders hemorrhage from this source easily controlled. The deep situation and intimate relations of the inferior thyroid artery render control of hemorrhage from this vessel more difficult. The early method of exposing and ligating this artery by dislocating the gland forward and inward was followed so often by injury to the recurrent laryngeal nerve and parathyroid bodies that it has been abandoned in favor of the modern intracapsular operation.

By a study of the various layers of the cervical fascia and the spaces lying between them the steps of a procedure have been devised by which the inferior thyroid artery may be ligated with safety behind the carotid sheath and at a distance from the thyroid fascia after which the usual intra-

capsular operation can be carried out without the difficulties and annoyances of profuse hemorrhage.

The operation is not recommended as a routine procedure, but is to be employed with very vascular goiters where profuse hemorrhage is to be expected. Enough capillary circulation remains to ensure the vitality of the parathyroid bodies. The steps of the operation have been worked out on the cadaver and applied in one operation of thyroidectomy with success.

Freeman L.: The Use of the Wire Clamp in Operations for Goiter. *T. Western Surg. Ass. St. Louis* 1913 Dec. By Surg. Gynec. & Obst.

Goiter operations may be made safer and easier in most instances, according to the author by the use of a simple wire clamp. After displacing the lobe to be removed a section of wire about No. 17 is placed along either side of its base, the two wires

being tied firmly together by ligatures passing through the glandular substance, thus clamping it firmly. The lobe is then cut away beyond the clamp and the stump whipped over with catgut to control the bleeding, the wires being then removed.

The advantages of the wire clamp are: (1) It may be adjusted to almost any goiter. (2) Hemorrhage is perfectly controlled. (3) The tissues are not crushed. (4) There is no danger to the recurrent laryngeal nerves or parathyroid bodies, and (5) the wires cannot slip from the stump being held by the ligatures passing through it.

Forceps are inferior to the wire clamp because they cannot be adjusted to every case, they crush the tissues and they may slip from the stump when the gland is cut away beyond them.

The method seems particularly adapted to parenchymatous vascular goiters of moderate size such as are so often seen in Graves's disease.

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Gosset A. and Masson, P.: Anatomopathological Study of 75 Cases of Cancer of the Breast (Sous-entente des cas de tumeurs du sein étude anatomopathologique). *Rev. de Gynec. et de Chir. Abdom.* 1913, xxi, 257. By J. Urol. de Chirurgie.

The most frequent disease of the breast is cystic mastitis. The mammary gland is a modified sudoriparous gland and its most specialized and fragile part is the acinus. Affected by inflammations the excretory canals may be obstructed by proliferation of either connective tissue or epithelium. This obliteration leads to an accumulation of the fluid secreted and if the cells of the acini are resistant the acinus becomes cystic. If not, after temporary dilatation the acinus atrophies. Finally by a process of hyperplasia papillae are formed projecting into the cavity. This is the beginning of a dendritic adenoma. If there is more connective tissue than epithelium a fibro-adenoma results. If the epithelium is in excess the cystic cavity is filled up with an epithelial mass and a lesion is formed intermediate between benign adenoma and infiltrating carcinoma. This explains the coexistence of cystitis and cancer. The examination of many sections has shown the authors how frequent adenomatous lesions are even if they are very small in cystic disease. They believe that the coexistence of cystitis and cancer is not the exception but the rule and that cancers develop much more frequently in cysts than in the surrounding normal gland.

The authors conclude by saying that cystitis the inflammatory nature of which is demonstrated is a predisposing cause of cancer. For a certain length of time the cancer is not evident clinically it can only be shown by histological examination. It is at this stage that operation would be effective and the ideal way would be to operate only on microscopical

cancers. Pieces should be removed for section and examination and the results would frequently indicate immediate and complete removal. This would avoid the rapid development to which insufficient operation sometimes gives rise.

GEORGES LANEY

Lapham M. E.: The Surgical Treatment of Pulmonary Tuberculosis. *Boston M. & S. J.* 1913, cxlvi, 676. By Surg. Gynec. & Obst.

The author criticises the present attitude of treating pulmonary tuberculosis merely by fresh air, good food and medical care. Many cases which run a rapid course can be arrested if the lung is collapsed and the diseased tissue put at rest. The collapsing aids drainage and allows connective-tissue infiltration to take place.

The best method of collapsing the lung which we have at present is by the introduction of nitrogen. This, however, has several disadvantages. The pleural cavity is closed and the pressure is apt to be either above or below the atmospheric pressure. This difference in pressure leads to many circulatory disturbances. It is reasonable to suppose that if the pressure inside the pleural cavity were a constant pressure as compared with the pressure in the lungs, fewer circulatory disturbances would result. The author believes that the best way to bring about this constant relative pressure is to connect the pleural cavity with the outside by means of a tube with a cap on the outside. By removing the cap the intrapleural pressure could be raised or lowered.

Other methods which the author suggests for bringing about the collapse of the lung are as follows: (1) The Wilms or Sauerbruch operation, which consists in the resection of all the ribs from the first or second extending to the tenth or eleventh,

This method is useful when extensive adhesions of the pleura prevent the formation of an artificial pneumothorax by means of nitrogen (2). The method of Baer is applicable when the cavity is too far up in the apex to be affected by an artificial pneumothorax. Baer resects the second rib works the costal pleura free with the finger and directly compresses the cavity by tamponing

J H SKILES

Beckman E H Observations on Empyema
St P of M J 1913 xv 533

By Surg Gynec & Obst

The pathology of empyema shows that as soon as there is an accumulation of purulent material within the pleural cavity either local or general, nature regards it the same as an abscess in any other part of the body and attempts to limit absorption by walling it off. In operating on some of the late cases the thickness of this limiting membrane was often found to be from one half to nearly one inch in thickness. As the fluid accumulates in the pleural cavity the unyielding wall of the thorax prevents expansion in this direction and room is found for the accumulation by compression of the lung. If the empyema has continued for any considerable length of time this membrane is so resistant that the lung cannot re expand after the fluid has been allowed to escape by free excision.

It is evident then that if free drainage is established before these adhesions form or before they become firm enough to hold the lung in a state of collapse the lung would quickly obliterate the cavity and the patient be rapidly restored to health. This corresponds exactly to the results obtained with free drainage in the early cases. It should be remembered that empyema is not a disease of the lung although pulmonary disease and empyema may exist at the same time and that the pulmonary tissue is only slightly or not involved at all in the inflammatory process in a very large majority of the cases.

In the recognition of small empyemas we have chiefly to remember the relationship between pneumonia other infections and this secondary infection and therefore to be on our guard if the development of the general phenomenon of infection occurs or persists after the pneumonic or other infectious process has apparently subsided. Pain continuing after the crisis in pneumonia in a certain localized area although it may not be severe and accompanied by a septic temperature almost surely indicates a localized empyema. The localization of the pus can often be determined by the pain and localized tenderness on the wall of the chest.

The aspirating needle is often of the utmost service in arriving at a correct diagnosis in these cases. While many writers warn us of the dangers that may occur from introducing a needle into the pleural cavity Beckman thinks that more good in the way of arriving at an early diagnosis is to be

gained from its use than the dangers that may come from a late recognition of empyema.

A radiogram of the chest is of great value in arriving at a correct diagnosis in obscure cases. It is often an extremely difficult and sometimes an impossible task to determine what the picture shows. It must be kept in mind that the X ray picture is the reproduction of a shadow and that a thickened pleura may cast as dense a shadow as an accumulation of fluid.

Poesagen F: Reciprocal Relations Between the Thymus the Thyroid and the Lymphatic System (Beitrag zur Frage der Wechselbeziehungen zwischen Thymus, Schilddrüse und lymphatischem System) *Med Kl n Berl* 913 ix 1504
By Zentralbl f d ges. Chir u i Grenzgeb

The pathological anatomist is impressed on examining the thymus with the manifold variations not only in the formation of the entire gland but in the relations of the cortex and medulla and in the persistence of epithelial elements. Microscopically remnants of the thymus can be detected at the most advanced age. Virchow's and Von Hansemann's assertion that goiter was generally connected with an enlarged thymus could not be confirmed from the very abundant goiter material at the Freiburg Pathological Institute. Neither could a relation be determined between persistence of the thymus and the formation of lymphatic foci in the thyroid but the marked involvement of the thymus in two cases of lymphatic leukemia and the frequency of the status thymico lymphaticus indicate a close relationship of the gland to the lymphatic tissue. In rickets and in chondrodystrophy (2 cases) there were no characteristic changes in the thymus. TÖRKV

Kolb, K Can a Persisting or Hyperplastic Thymus Be Demonstrated with Abderhalden's Ferment Reaction (G lügt es mittelst der Abderhaldenschen Fermentreaktion den V chweis einer persistierenden oder hyperplastischen Thymus auf?) *M nche med Wchnschr* 1913 ix 642
By Zentralbl f d ges. Chir u i Grenzgeb

A hyperplastic Basedow thymus gland cannot be demonstrated with certainty by percussion or the roentgen picture. The blood serum of healthy persons as Kolb was able to show in the case of 17 adults contained no ferment capable of decomposing the tissue of the thyroid thymus or liver. The normal thymus of youthful individuals in the process of involution cannot be shown by Abderhalden's ferment reaction. In six cases of Basedow's disease at W l m's Clinic thyroid split products were found in four cases and marked splitting of the thymus in all cases. The mahydrin test was just recognizable in four out of seven cases of endemic goiter. Kolb urges a test of the splitting power of the serum in cases of status thymo-lymphaticus in thymus new growths and before and after thymectomy.

KLOSZ

TRACHEA AND LUNGS

Segura E V: A Case of Cylindroma of the Trachea; External Operation; Recovery (Un cas de cylindrome trachéal; opération par la voie externe; guérison) *Ann d maladies de l'oreille* 1913 xxiii, 162
By Journal de Chirugi

The author reports a case of cylindroma of the trachea operated upon externally followed by recovery. The patient was a woman of 42 whose previous history was negative. Early in 1909 she began to be fatigued on the slightest effort and this symptom grew worse. She first took anti asthmatic and then anti syphilitic treatment without success. In January 1911 the dyspnoea was so intense that she was obliged to remain constantly in a sitting position and take inhalations of oxygen.

In April 1911 Segura found at the level of the fourth tracheal ring a smooth pyriform tumor with its large end downward covered with normal mucous membrane. It occupied almost the entire lumen of the trachea.

A local anesthesia was produced with cocaine, adrenalin, and the anterior surface of the trachea was exposed by an incision 5 or 6 cm long. It was opened by a median incision through five rings, and it was found that the upper two thirds of the tumor were adherent the lower third free. Three fourths of the tumor was removed with a snare and the base was removed with a punch forceps. The hemorrhage was very slight, and the trachea immediately resumed its normal caliber. Segura did not insert any tracheal cannula and he simply replaced the parts without any suture—first the edges of the tracheal wound and then the soft parts. The wound was covered with a dressing that exerted a moderate degree of compression.

The healing was rapid and eight days after the operation the patient left the hospital completely well. In October 1912 there had been no recurrence.

A histological examination showed that the tumor was a cylindroma, a type of tumor that generally develops in the neighborhood of salivary glands and may be regarded as a benign tumor though it frequently gives rise to recurrences.

GEORGE LAUREN

Ghoreyeb A A and Karen r H T: A Study of the Relation of the Pulmonary and Bronchial Circulation. *J Exp Med* 1913 xxvii, 500
By Surg Gyner & Obst.

In order to appreciate the possibilities of the circulation in the lungs in various pathological conditions the authors injected the pulmonary and bronchial arteries simultaneously under measured pressure.

The pressures were varied in the two vessels in a series of experiments. The work was done on anesthetized dogs and when complete the vessels were clamped the specimen removed and placed in fixing solution.

They found that as long as definite pressure is

maintained in either system the admixture is extremely limited. If however the pressure in either system drops to zero the admixture is evident. It was found that it takes much longer for the mass injected through the bronchial arteries to penetrate to all parts of the lung than when the injection is made through the pulmonary artery but when completed the injection reaches to all capillaries including those of the pleura. On the other hand the injection of the bronchial vessels by way of the pulmonary system is not complete under normal pressure but this is rapidly accomplished when a high pulmonary pressure is used.

The conclusion is drawn that either circulation can supply the simple nutritive demands of the lung if the other should be interfered with.

JAMES F CHURCHILL

Segura E V: Mycoses of the Mucous Membrane of the Respiratory and Upper Digestive Tracts (Considérations sur les mycoses des muqueuses des voies respiratoires et digestives supérieures) *Arch internat d laryngol* 93 xvi, 45
By Journal de Chirurgie

The author reports 11 cases of mycosis of the respiratory and upper digestive tracts which he believes were due to sporotrichosis although the sporotrichium was not discovered in the majority of them.

The lesions had the typical appearance of sporotrichosis ulcerations with ragged edges secreting sero-pus in the center. In the nasal fossae the ulcers were covered with thick crusts and in some places there were little yellow spots representing follicular projections. In one case there was destruction of the uvula and pillars in another the epiglottis was covered with papillomatous vegetations and in the eleventh case there was a sporotrichosis that had degenerated into a neoplasm.

In the cases where the sporotrichium was not discovered the author established his diagnosis partly by the appearance of the lesions, but more particularly by the exclusion of tuberculosis and syphilis. None of the patients showed a positive Wassermann and all except the last in which there was a neoplasm recovered in 20 to 30 days with small doses of iodide of sodium. Several of these patients had been treated with mercury without success.

Heretofore, in all cases of sporotrichosis of the mucous membrane (which cases are very rare however) the germs have been found in abundance. The above cases show that this is not always true, and that what is found in cutaneous lesions may also be found in lesions of the mucous membrane. In cutaneous cases the parasite is found only occasionally. Segura believes that sporotrichosis of the mucous membrane is much more frequent than it has been believed to be. Many cases of recovered cancer of the throat of lupus, of tuberculosis, and of syphilis he thinks, have been improperly diagnosed cases of sporotrichosis.

GEORGE LAUREN

PHARYNX AND OESOPHAGUS

Torek F : The First Successful Resection of the Thoracic Part of the Oesophagus for Carcinoma (Bericht über die erste erfolgreiche Resektion des Brustteiles der Speiseröhre wegen Carcinom)
Deutsche Ztsch f Ch 1913 cxx 305
 By Zentralbl f d ges Ch r u 1 Grenzgeb

More than a year ago a 67-year-old woman was operated upon for carcinoma in the middle of the oesophagus extending downward 4.5 cm from the lower edge of the aortic arch. Some time before, a Witzel's stomach fistula had been made. An incision was made through the posterior end of the seventh intercostal space. The fourth fifth sixth and seventh ribs were resected near the tubercle. The adhesions between the lungs costal pleura and diaphragm were then loosened. The tumor was found to be slightly movable. The oesophagus was loosened first below and then above the tumor and the vagi were dissected. A few small branches of the vagus crossing the tumor were cut without any disturbance of the pulse.

It was very difficult to dissect the part of the oesophagus behind the aortic arch. This difficulty was finally overcome by ligating and cutting a number of the thoracic branches of the aorta and lifting the aorta out of the way. The tumor was adherent to the left branches and in freeing it an incision was

made lengthwise of the bronchus. This incision was sutured with silk. The oesophagus was dissected from a point 2.5 cm above the diaphragm to the neck and burned through with the cautery below the carcinoma after double ligation. The oesophagus with the tumor was drawn through an incision along the anterior border of the sternocleidomastoid. The lower stump was ligated in a fissure previously made by crushing. The stump was invaginated with two purse string sutures. The thorax was closed with silk sutures at the seventh and eighth ribs. The wound was not drained. The carcinoma was removed and the oesophagus sewed into skin wound. The incision in the neck was then closed.

The skin and muscle incisions were made under local anesthesia. general narcosis was then induced by the Melzer Auer method of tracheal insufflation. The intrathoracic part of the operation from the incision of the pleura to the closing of the thoracic cavity lasted 1 hour and 45 minutes. The entire operation 2 hours and 43 minutes. Nourishment was given until the eighth day with a gastrostomy tube and funnel. At the end of that time the free end of the gastrostomy tube was inserted into the end of the remaining oesophagus and the patient is now able to swallow her food.

Borr

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Quain E P : The Necessity of Conserving the Intercostal Nerves in Abdominal Incisions. An Experimental Study. *T Western Su J Ass*
 St Louis 1913 Dec. By Srg Gynec & Obst

The author had occasion to operate on several patients, who had previously been operated on through lateral abdominal incisions placed in such a way as to sever intercostal nerves. The findings in such cases suggested a possibility that the omentum may have a greater tendency to adhere permanently to that part of the abdominal wall which has been deprived of intercostal nerve supply than to any other part of the parietal peritoneum.

In a series of experiments on dogs and rabbits undertaken in an effort to determine whether these observations were correct the following plans were adopted. In group 1 the lower intercostal nerves were severed on one side through an incision near the costal margin without damaging the peritoneum. In group 2 an incision was made in the linea alba, both sides of the parietal peritoneum were rubbed with gauze care being exercised to apply an equal amount of trauma on each side and the wound then closed. Through a second incision at the costal margin on one side segments of the intercostal nerves were removed. In group 3 the same operations were made as in group 1 with the addition of tincture of iodine gastric or intestinal contents

applied in weak solutions to the peritoneum on each side.

At autopsy there were no macroscopical changes in group 1. In group 2 pathological changes especially adhesions were more marked on the enervated than on the normal side in seven of the eight experiments. Microscopical sections showed a more chronic infiltration and a delay in the reparative process in the enervated peritoneum when compared with corresponding sections from the normal side. In group 3 the same general results were obtained as in group 2 but somewhat more marked.

A summary from 15 experiments in groups 2 and 3 shows that adhesions were confined to the side of nerve extirpation in eight animals. Two of the three cases with bilateral adhesions had most of the adhesions on the operated side. fibrin deposits were limited to the enervated side in one case and one animal without adhesions had a more marked peritoneal infiltration on the operated side. There were three negative experiments. Hence 80 per cent of the experiments gave a positive answer to the question as to whether the destruction of the intercostal nerve supply is of pathological significance to the peritoneum.

That adhesions and chronic infiltration are more likely to follow trauma and infection on an enervated than on a normal peritoneum are facts which argue strongly against lateral longitudinal incisions and in favor of transverse incisions.

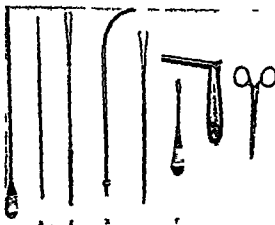


Fig. 1 (McDill). A, Sims uterine sound, B same with handle removed blunt end perforated and probe pointed, making the Bodkin C a 25 cm (10 inch) Emmet's cotton carrier, D a No. 14 standard gynec catheter E the Silk Carrier made from C and F F trocar for the Kelly endoscopic tube G used as cannula if Péan forceps

McDill J R: Chronic Ascites Treatment and Drainage by Lymphangioplasty Through a Trocar Wound Under Local Anaesthesia An Experimental Study *Surg. Gynec. & Obst.* 1913 vol. 533 By Surg. Gynec. & Obst.

In this study and series of experiments the author attempts to show that the relief of ascites after operations which herniate an abdominal organ or which implant silks from the peritoneal cavity to the subcutaneous spaces probably not from collateral circulations in the one case or from capillary drainage in the other but is due to leakage of the fluid alongside the marsupialized organ or the implanted silks which are prevented from uniting to the surrounding tissues firmly enough to hold in water under pressure by this pressure itself and also by the normal and constant movements of the abdominal wall. The speedy replacement after tapping of large quantities of fluid, rich in proteins, salts and the characteristic constituents of the tissues and fluids of the body which are necessary to metabolism makes the patient pay very dearly for relief from distention and greatly shortens the remaining period of life.

In his experiments McDill made use of rabbits and devised a simple technique by which the plan can be tested clinically. Various materials were tried and No. 20 silk was found the most practicable. In thirty days the intraperitoneal end was found to have become converted into a silk connective tissue peg covered with a dense membrane making it impossible as a capillary drain around this peg the peritoneum was puckered and everted and not strongly attached to the silk.

The instruments can be made from old tools



Fig. 2 (McDill). The three pieces of No. 20 silk with about 4 cm (1½ inches) of the ends stitched firmly together. The fine silk, held in the silk carrier ready for insertion through the cannula.

found in any doctor's office as shown in Fig. 1. The Kelly tube with trocar and the Péan forceps are not essential; any cannula may be used that will take the carrier when loaded with the silk.

The technique consists in (1) paracentesis just above the pubis and 5 cm (2 inches) from the median line, making sure that the cannula is in because on account of the recumbent position of the patient very little fluid will flow. (2) The silks are passed, as in Fig. 2, through the cannula until about 2½ cm (1 inch) project beyond the parietal peritoneum, holding it exactly in place the cannula is slipped out over the carrier, and the three ends which have been cut to the desired length are thrust, using the bodkin eye first downward and in three directions into the subcutaneous fat. (3) The "carrier" is removed without disturbing the silk; the bends of the silks are tucked in and the opening is sutured very snugly. When these special instruments are not available the silk can be planted through a short incision under local anesthesia, with one stitch to anchor it to the deep fascia also after an exploration when it is indicated the silk can be easily inserted in one or both sides before the abdomen is closed.

The author's conclusions are:

1. Ascites patients have an impaired vital resistance, deficient powers of repair and do not well endure extensive operations under a general anesthesia. A number of the formidable operations have been successful but the death rate is 30 per cent. If this simple procedure will provide a gradual drainage of the peritoneal pond it will be a desirable addition to existing methods.

2. The operation is not much more serious than a simple paracentesis and other silks can be inserted at any subsequent tapping until there is sufficient drainage. Pressure by intraperitoneal fluid is desirable after this operation to weaken the line of union between the silk and the surrounding tissues but if it becomes too distressing a tapping may be necessary to give temporary relief. Permanent drainage may not become established until two or three months after an operation.

3. The permanency of any improvement will depend upon the correction of an intestinal toxemia when present, rest in bed when indicated, total withdrawal of alcohol, bland and almost salt-free

diet and attention to any cardiovascular renal disturbances. Although a liver cirrhosis with the strophic tendency cannot be cured its physiological balance can be restored in many cases and life may be greatly prolonged in comfort and freedom from disability
I. R. McDILL

Veit J: Questions in Regard to the Peritoneum from the Author's Experience (Pentoneale Fragen nach eigenen Erfahrungen dargestellt) *Prakti Ergebnisse Geburtsh u Gynäk* 1913 v 195
By Zentralbl f d ges Chir u Grenzgeb

The first question deals with the covering of intraperitoneal wounds with peritoneum. Veit believes that the pentoneal covering of all abdominal wounds, as demanded by Bumm is unnecessary if the operation is strictly aseptic formation of adhesions is to be feared only in case of infection. According to experiments by Dembowsky and Lamers, no adhesions form over the gaps in the peritoneum if there is no infection. The reparative process begins from the edges of the wound and proceeds much more rapidly than it does in the epidermis. The author thinks that the mere lowering of the stumps in simple ovariectomy without covering them with peritoneum is justified. He covers with peritoneum only in operations where there is fear of oozing of infectious material in aseptic operations he leaves the connective tissue spaces in communication with the abdominal cavity.

If the contents of the tube is purulent or if on sectioning it be cannot be sure whether the contents is free from bacteria he covers the stump with peritoneum as in appendicitis. If he has to open the vagina in a laparotomy and remove the uterus also he provides for the dryness of the abdominal cavity and for aseptic healing by insuring free drainage of the abdominal cavity. He accomplishes this by allowing the patient to get out of bed daily for the first four or five days after the operation and sit in a chair.

The second question concerns the protection of the abdominal wound. In order to keep the wound entirely free from germs during the operation he covers it entirely with B. Iroth gauze by Koeberle's method, and covers this over with metal. For this purpose he uses an abdominal speculum which he has had made by Wundler of Berlin. He has had excellent results with this method.
KOLB

Hancock J C: Coincidence of Umbilical Hernia with Gall Stones. *T Wier S & A St Louis*, 93 Dec. By Surg Gynec & Obst

Scant mention is made in the literature of the association of a certain class of umbilical hernia and gall-stone disease. While the author's series of cases (seven) is too small to establish more than coincidence common etiological factors are significant of more than coincidence. The type of hernia cases is that of fleshy middle-aged individuals mostly women who have borne children.

Besides the principles of the causation of hernia in general we have in the umbilical variety pregnancy as the conspicuous form of trauma. Of 134 cases in males over 15 years old only 15 cases occurred having an umbilical hernia only while 95 had bilateral and 12 unilateral inguinal hernia besides. In 494 cases of umbilical hernia in women 438 cases of this form alone were present and only 56 combined with other forms. Of the 494 umbilical hernia cases in women 429 had had one pregnancy and 377 had had plural pregnancies with two exceptions the parous cases developed hernia only after labor.

Of pathological bases for umbilical hernia obesity is common and striking. Denk reports four nulliparae as having umbilical hernia but three of them were uncommonly fleshy and the fourth otherwise spare had an enormous ovarian cyst. Of the author's cases all were fleshy to distinct obesity.

In respect to age umbilical hernia in the female over 30 years old is common compared with those occurring earlier and especially compared with the male of like age — with one exception in the author's cases of a woman past 30 years of age all were more than 40 years old.

Constipation is a conspicuous feature in these cases and intestinal stasis may act as a contributory cause or may be an effect of umbilical hernia. Comparing the factors of contributory causes of umbilical hernia with those of gall-stone disease we see a close relation. In respect to sex we see the proportion of three cases of gall stone disease in women to one in men. In regard to age nearly 50 per cent of all cases of gall-stone disease occur in people above 40.

Ninety per cent of women with gall-stones have had one or more pregnancies. Obesity in women with gall stone disease is common but not so conspicuous as in umbilical hernia. Constipation and intestinal stasis are as important factors in the causation of gall stone disease as in umbilical hernia.

In conclusion it would appear indicated in treating umbilical hernia of the type described to treat the history for symptoms, and at operation to examine for proof of gall stone disease.

Gussev V: Treatment of Incarcerated Hernia Based on 420 Cases (Bilag zur Therapie der eingeklemmten Brüche auf Grund von 420 Fällen) *Deutsche Ztschr f Chir* 93 Jan 1913
By Zentralbl f d ges Chir u Grenzgeb

Gussev reports 420 cases of incarcerated hernia observed in the surgical section of the Children's Hospital at Riga from 1902 to 1912. The statistics must be read in the original. He reports the following unusual cases which are described in detail: One case of hemorrhage into the hernial sac; 3 of reduction en masse; 1 of rupture of the hernial sac and mesentery; 3 of volvulus; 3 of replacement of a gangrenous loop of intestine; 4 of rupture of the intestine; 1 of hemorrhage of the intestine; 2 of diaphragmatic hernia.

In gangrenous hernia primary resection of the

intestine is the operation of choice. In 24 per cent of the cases of intestinal suture there was insufficiency of the sutures in 53 per cent of those united by Murphy buttons there were fecal fistulae. In 7 cases in which there was a history of hernia but no attempt at reduction had been made and the hernia was not visible there was incarceration at the internal inguinal ring making diagnosis difficult.

There were two cases of mistaken diagnosis—once in a case of preperitoneal lipoma and the second time in a case of appendicular peritonitis in the hernial sac. The mortality for the 430 cases was 27 per cent. The author thinks that this percentage can be reduced by more frequent use of local anesthesia, improvement of operative technique by sending the patients for operation as soon as possible and by general practitioners giving up attempts at taxis. Kots

De Garmo W B. Accidental Wounds in Hernia Surgery. *A J St J Med* 19 3 57.
By Surg. Gynec. & Obst.

This paper is the result of observations based on 2000 personal operations. The author calls attention to the fact that the urinary bladder not infrequently is found in hernial sacs. He was able to collect thirty-one cases in his series. It is important that this possibility be kept in mind so that injury to the bladder may be avoided during the course of an operation for hernia. De Garmo is of the opinion that the high mortality following bladder injuries has been due to the fact that the accident is not discovered at the time and immediate repair made. It is imperative that no matter how slight the injury may be if the integrity of the bladder wall has been disturbed it must be immediately and carefully restored.

The author mentions three distinct forms of bladder hernia as follows:

1. The bladder may protrude within a large hernial sac with other contents of the abdomen. This form is undoubtedly more common than is supposed but it is reduced when the patient comes to operation and is therefore undiscovered.

2. The bladder is dragged into the hernial opening by the peritoneum or the transversalis fascia.

3. When the mucosa is herniated through the muscular layers of the bladder forming a diverticulum. This is the most treacherous of all types as the membrane closely resembles hernial sac.

The first type is intraperitoneal the second, either wholly or partially extraperitoneal and the third type always extraperitoneal. H L. KERSCHNER

GASTRO INTESTINAL TRACT

Eusterman G B. Incidence and Diagnostic Value of Blood or Hemorrhage in Gastric and Intestinal Lesions. Clinical and Statistical Study. *Tr W Intern Surg Ass St Louis*, 913 Dec.
By Surg. Gynec. & Obst.

Repeated hemorrhage in the presence of a preceding history of gastric disturbances with pain or

distress signifies an ulcer of the duodenum or stomach in more than 90 per cent of the cases. In about 1 1/4 per cent of all cases of gastric and duodenal ulcers, operatively demonstrated single or repeated gastro intestinal hemorrhage with almost complete absence of pain or gastric disturbances was noted.

Examination of the gastric contents and meat free stool for occult blood is of undisputed value in the differential diagnosis of doubtful cases and in estimating the effectiveness and duration of dietetic and medicinal treatment. However positive occult blood findings, unless taken in conjunction with the clinical symptoms and physical findings may lead to wrong conclusions.

In 568 proven cases of duodenal ulcer 31 gle or repeated hemorrhage by mouth or bowel or both occurred in 19 1/2 per cent in 249 cases of gastric ulcer in 23 per cent. In disease of the gall bladder gross bleeding in variable amounts occurred in 2 to 4 per cent in chronic and subacute appendicitis in 1 to 2 per cent.

Positive occult or altered blood findings in order of frequency are incident to gastric cancer chronic simple ulcer of the duodenum and stomach disease of the gall-bladder and appendix. Altered blood was present in the gastric extracts in 75 per cent of 688 cases of gastric cancer in 17 per cent of 497 gastric analyses in 568 cases of duodenal ulcer and in a general average of 28 per cent in 343 cases of gastric ulcer. In 228 analyses of 500 gall bladder cases, positive occult blood reactions were obtained in 43 per cent or in 19.6 per cent of the total (tr. guaiac or benadion tests). In 110 analyses of 500 cases of appendicitis a positive reaction with similar reagents was present in 24 per cent or in 5.4 per cent of the total.

Myer J S. Polyposis Gastrica Polyadenoma. *J Am M Ass* 19 3 121, 1960.

By Surg. Gynec. & Obst.

Myer reviews the literature of this universal condition the etiology of which is as obscure as that of other growths. Chronic gastritis is a factor in its development. Macroscopically the polyps in previously reported cases were small and pedicled varying in size from the size of a lentil to that of a pea of soft consistency and never adherent to each other. The polyps sometimes numbered several hundred and were all of about the same size. They may develop from any part of the stomach mucosa. The portion of mucous membrane of the stomach not involved in the polyp formation usually shows macroscopical characteristics of a chronic gastritis enlarged lymph nodes are often present also. Myer reports his case in full it being with one exception the only one in which the diagnosis was possible prior to operation or necropsy. He offers the following conclusions:

1. Though the diagnosis was made possible in this case through the presence of small polyps; the wash water during lavage which also occurred; Chosrojeff's case and the presence of a large polyp

in the faeces following hemorrhage. It would seem that at least a probable diagnosis might be made in future cases without this conclusive finding.

3 The roentgenographical and fluoroscopic examination in a case as extensive as the one reported here should always be helpful. The mottled appearance of the entire right half of the stomach, as though the bismuth were trickling through and around numerous masses, together with the irregular and indefinite outline of the stomach could be produced only by such a condition as described in this case or by a most extensive malignant disease which would readily be differentiated by other means.

3 Achylia gastrica, together with an unusual production of mucus, should always arouse suspicion. Ordinarily in achylia gastrica mucus is not encountered in the wash water either in the large quantities here described or with the peculiar egg white character one would expect in the great multiplication of goblet-cells.

4. The repeated presence of fresh blood microscopically in gastric contents removed with care or in the wash water is indicative of a redundant vulnerable condition of the mucosa from which bits of tissue are readily removed by the tube.

5 In severe acute gastric hemorrhage in a patient with achylia gastrica, abnormal mucous production and normal or increased gastric motility polyposis is more than probable. LEO G DWAN

Erdmann, J F: Fibroma Cardia in a Girl of Eighteen; Gastrostomy and Enucleation. *Am J Obst N Y* 1913 102 No 3

By Surg Gynec & Obst

The author reports a case of a girl 18 years of age who for four years except for several attacks of hematemesis had suffered from rather ill-defined stomach symptoms and was regarded and treated by a number of physicians as suffering from ulcer of the stomach. Because of an increase in the subjective symptoms operation was resorted to. The condition of the viscera was found to be normal except that upon palpation of the cardia a tumor was found. A gastrostomy was done and the tumor which was the size of an egg and had the appearance of a prostate was found attached to about one-fifth of the circumference of the cardia. By blunt dissection the tumor was easily removed. A couple of bleeding points were ligated the stomach was closed and a small abdominal drain inserted. The patient recovered.

N SPRAGT HEANEY

Kawamura K.: The Digestion of Living Tissue in the Stomach; and a Study of the Pathogenesis of Round Ulcer of the Stomach (Zur Frage der Verdaulichkeit lebenden Gewebes im Magen, zugleich ein Beitrag zur Pathogenese des runden Magengeschwürs). *Mitt a d Grenzgeb d Med u Chir* 1913 22:vi, 379

By Zentralbl f d ges Chir u Grenzgeb

In numerous experiments on dogs parts of the stomach intestinal walls, and spleen were subjected

to the digestive action of the gastric juice under special experimental conditions. These living tissues were not attacked by the gastric juice so long as the circulation in them was undisturbed. Only after necrosis had begun as a result of circulatory disturbances was there any sign of digestion taking place. In experiments with artificial acid *in vitro* the bits of stomach wall were digested first, the complete digestion of the pieces of small and large intestine and spleen taking two or three times as long.

If equal sized pieces of mucous membrane from the stomach the small and the large intestine or the fluid expressed from these tissues were added to fresh gastric juice according to Katzenstein's conditions the stomach was digested first while the presence of the intestinal mucous membrane had a more or less inhibitory effect on the digestive power of the gastric juice—the presence of splenic tissue was markedly inhibitory. The addition of blood serum also decidedly inhibited the digestive action of the pepsin.

From the experiments, the author concludes that antipepsin is found in the blood and is demonstrable not only in the stomach but in various other organs. An ulcer of the stomach can arise only when from circulatory disturbances there is a lack of antipepsin in a circumscribed area in the stomach.

WORTHMAN

Lockwood C D: Ulcer of the Stomach in Children Before Puberty. *Tr W Stern Surg Ass St. Louis*, 913 Dec. By Surg Gynec & Obst

Reports of round ulcer of the stomach in children before puberty are rare but the author believes it to be more common than is generally believed. After recognizing a case of ulcer in a girl of 13 years and successfully operating upon her the author was stimulated to investigate the subject from the surgical point of view.

After a brief discussion of the etiology pathology and diagnosis of ulcer in children, the author's case is reported. A girl of 13 previously in good health, was suddenly seized with severe pain in her left side which was thought to be due to pleurisy. She soon complained of abdominal pain localized at times in the epigastrium and at other times in the lower abdomen. Her chief complaint was pain, worse at night and paroxysmal in character she was constipated and complained of being hungry. A diagnosis was made chiefly by means of palpation. During a paroxysm of pain gas could be felt gurgling through the pylorus followed by immediate relief. The author believes this to be a diagnostic sign of great importance. The diagnosis was confirmed by the finding of blood in the stomach contents and stools and later by operation. An anterior gastroenterostomy was done with complete relief of symptoms for three months. Then there was gradual loss of weight and recurrence of all the symptoms. At second operation the tissues were so infiltrated and cartilaginous that further operation was useless. A post-mortem examination disclosed a perforated

gastric ulcer on the greater curvature with carcinomatous degeneration at the site of the ulcer and metastasis of the pancreas, liver glands, etc.

The author reports ten other cases collected by him which have been treated surgically and all cases of gastric ulcer reported in medical literature about 125 in all.

Smithies F: The Significance of Gastric Ulcer with Respect to Gastric Cancer. Study of 566 Consecutive Operatively and Pathologically Demonstrated Cases of Cancer of the Stomach. J Am Med Ass 1913 Jul 1973.

Int Surg Gynec. & Obst

Smithies presents an analysis of 566 operatively and pathologically demonstrated cases of gastric cancer from the Mayo Clinic and offers the following summary:

1. A number of cases clinically admitting only a diagnosis of chronic gastric ulcer are shown to be malignant at operation. Many cases of gastric cancer reveal a "precancerous" history which at any stage prior to the terminal period of malignancy satisfies the clinical symptom-complex of chronic gastric ulcer.

2. A study of this series has been made in the attempt to determine how often chronic ulcer preceded gastric cancer and how this change is manifested clinically.

In its clinical consideration the sex ratio in gastric cancer is approximately that of chronic gastric ulcer (3:1 males to 1 female). More than three-fourths of the cases of gastric cancer occur in persons between the ages of 40 and 70 years, more than one-half those of chronic gastric ulcer (134 cases) between the ages of 40 and 70. A family history or one of blood relationship of gastric cancer existed in 9.2 per cent and a history of tuberculosis in 1.2 per cent.

Precancerous history indicates that 41.8 per cent of proved cases of gastric cancer presented early symptoms of chronic gastric ulcer. 18.7 per cent showed the early symptomatology of irregular gastric ulcer and 31.1 per cent of the cases had the symptom-complex of gastric cancer without previous gastric malfunction. Thus in more than 60 per cent of the cases of gastric cancer the patients had previous dyspeptic history and this history was generally that of chronic gastric ulcer.

The length of time of all symptoms of the primary cancerous group (184 cases) was 7.1 months. The average length of time of the precancerous dyspeptic period: 10 cases was 11.4 years. In this group the supervening period of evident malignancy averaged 6 months.

Development of precancerous history permits patients coming to laparotomy at a stage when in more than one-half of the instances surgical advantages of a localized process are available. In about one-fifth of the cases of primary gastric cancer ulcer carcinomatousum is demonstrated operatively.

The significance of clinical symptoms and per-

odicity was shown by the fact that in 81 per cent of the cases in which prolonged dyspepsia had preceded cancer, periodicity of symptoms was noted at that stage, while in 90 per cent of the cases periodicity was absent when the process became evidently malignant. In but 4.8 per cent of 184 cases of primary cancer were there periodic attacks of distress.

As to types of pain, nearly one-fourth of the patients in whom dyspepsia preceded malignancy had prostrating pain (colics, etc.), while only about one-fifteenth of the patients with "primary" cancer exhibited this type of distress. Opium relief was required in 6.5 per cent of the former class and in 2 per cent of the latter. Food ease of pain was present in more than one-fifth of the cases in which malignancy followed clinical gastric ulcer and in 3.3 per cent of the "primary" cancer group.

Melena or hematemesis was noted in 17.1 per cent of the cases. Of the group styled malignancy following ulcer hemorrhage occurred in 62.9 per cent in the "irregular ulcer" group before malignancy, 19.5 per cent and in "primary" cancer group, 16.5 per cent. Of patients bleeding within two years of coming under observation, more than three-fourths fell in the ulcer before cancer classification. The hemoglobin estimation was rather higher in the primary cancer group than in the ulcer preceding malignancy class.

Vomiting was observed in more than 57 per cent of the cases of gastric cancer, while more than 40 per cent exhibited delayed vomiting. Of the entire group, 12 per cent gave a history of dark or coffee-ground vomit.

Nearly three-fourths of the cases of gastric cancer exhibited abdominal tumor or ridge. This was present in nearly two-fifths of the cases of primary cancer and in more than three-fifths of the cases in which ulcer preceded malignancy clinically.

In more than one-fifth of the cases in the primary cancer division and in about one-ninth of the cases in the non-primary group metastases were demonstrated before laparotomy.

The test meal findings showed that delayed gastric emptying power was evident in nearly two-thirds of the cases in the primary cancer class and in nearly three-fourths of the cases in the non-primary division.

In 53.4 per cent of primary gastric cancer cases free hydrochloric acid was absent in 11.5 per cent it was between 20 and 30. In the non-primary cancer class free hydrochloric acid was absent in 49 per cent and in 2 per cent it was between 20 and 30. Lactic acid was more commonly noted in the primary cancer group than in the non-primary division.

The presence of occult blood was rather more frequently demonstrated in the non-primary cancer class than in the primary cancer group. The presence of Oppler Boas bacilli was demonstrated in 93.8 per cent of cases of gastric cancer by the differential agar-stain method.

The glycyltryptophan test was positive in 40 per cent of the 141 cases. The hemolytic reaction was positive in 47.2 per cent of the 31 cases. The formaldehyde titration index was uniformly higher in gastric cancer and ulcers carcinomatosa than in other gastric ailments. The estimation of soluble albumin by the Wolff Junghaus test was more uniformly positive in cancer and carcinomatous ulcer cases than other forms of gastric disturbance.

In about 10 per cent of the cases of gastric cancer the evidence returned by the fluoroscope and röntgenogram is of distinct value in making absolute diagnosis of physically inaccessible located cancers.

The surgical consideration is of importance as the locations of ulcers carcinomatosa and cancer as shown by laparotomy closely approximate those of chronic gastric ulcer but do not correspond to the post mortem localization of gastric cancer. More than one fifth of the cases of gastric cancer revealed no involvement of the lymph nodes with generally favorable operative outlook. In nearly 4 per cent of cases free abdominal fluid was present—these were inoperable cases.

More than 98 per cent of gastric cancers were adenocarcinomata while sarcoma occurred but once in 566 cases. More than one fourth of gastric cancers show ulcerative changes as primary or secondary types of growth. It is usually an easy matter to state definitely whether or not a given specimen is at the time benign or malignant. There is a group of cases of chronic ulcer in which examination of fresh tissue reveals cellular or intracellular variations of such type as to warrant designation of "precarcinous" ulcer. It is often impossible to distinguish stages of simple and malignant hyperplasia histologically. Benign ulcers of the duodenum may be associated with malignant gastric ulcers. Benign and malignant ulcers may be associated in the same stomach.

LEO G. DWAN

Case J. T. X Ray Aid in the Recognition of Pyloric and Duodenal Ulcer: A New Sign of Duodenal Ulcer. *J. Mich. St. M. Soc.* 9:3, 1917. By Surg. Gynec. & Obst.

X ray examination in gastro enterology is essentially fluoroscopic except for purposes of record for comparison or when gall stones are suspected. After the regular bismuth meal consisting of 10 ounces of farina mush containing 1 part in 8 of barium sulphate the ingestion of the meal is watched in order to determine the following points: Emptying time, size, shape, position, character of peristalsis, spastic manifestations, identification of pain points, mobility of the stomach and duodenum, bismuth flecks, etc.

Though in many cases of duodenal ulcer the emptying time of the stomach is normal, a rapid emptying is suggestive of duodenal ulcer while cases not showing this are those in which actual obstruction exists. Quick emptying is also seen in cholelithiasis, gastric ulcer with perforation and adhesions to the pancreas, in extensive gall bladder

adhesions and in early carcinoma of the pylorus. Early hypermotility with later delay may usually be considered indicative of tardy pylorospasm associated with delayed hypersecretion and is suggestive of duodenal ulceration. Delayed motility with hypersecretion and early pylorospasm is suggestive of pyloric ulcer.

The stomach is hypertonic or orthotonic in duodenal ulcer but usually hypotonic or atonic in pyloric ulcer. Marked delay in clearance associated with gastric dilatation is likely to depend upon a benign cicatricial obstruction.

A spastic indrawing high up on the greater curvature is described as a sign of duodenal ulcer, this being accompanied by pain or pressure over the duodenum. Not all duodenal ulcers show this indrawing and it has been observed in Graves disease, appendicitis and gall stones. Subjective pain over the duodenal shadow is suggestive but tenderness in that area usually indicates adhesions though it may be due to other causes such as cholecystitis. Peristaltic waves may be normal in duodenal ulcer and in pyloric ulcer they are usually exaggerated in depth and often in number.

The duodenal bulb normally contains bismuth throughout the period of digestion and when it persistently fails to fill the indication is duodenal ulcer or periduodenitis with adhesions. Unusual filling of the entire duodenum is frequently seen in duodenal irritation from ulcer, gall stones or periduodenitis and is indicative of a patent pylorus rather than reduced duodenal motility. A fleck rarely persists in the crater of an old duodenal ulcer. The author has been able to demonstrate gall stones in 40 per cent of cases and concludes that the X ray examination may be of great value when studied in connection with other clinical data in the differentiation of pyloric, duodenal and gall bladder lesions.

E. H. ARMSTRONG

V. Ichler, E. Statistics of Peptic Ulcer of the Duodenum (Zur Statistik der peptischen Duodenalgeschwüre). *Med. Klin. Berl.* 1913, 12, 1408. By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

These statistics are the result of a series of questions addressed to a number of physicians and a brief report of the answers received. Among 716 cases, 81.3 per cent were in men and 18.7 per cent in women. They were much more frequent in young adult life—40.7 per cent were uncomplicated ulcers. The complications in 425 cases consisted of stenosis, 82; perforation into the abdominal cavity, 178; with 50 per cent mortality in acute perforation; acute hemorrhage, 45; carcinomatous ulcer, 7; subphrenic abscess, 5; subhepatic abscess, 3; liver abscess, callous tumor, 1; external fistula, 1; diverticulum, 1; perforation of the liver, 1.

Pain when the stomach is empty is not a characteristic symptom of duodenal ulcer. Blood cannot always be demonstrated in the stools even in florid ulcer. In several cases during the operation the ulcer could not be felt from outside through the

intestinal wall and even internal palpation was without result in some cases. In treatment gastro-enterostomy with occlusion of the pylorus by Kelling's method or more rarely by ligation, was preferred to Von Eiselsberg's excision which presents great technical difficulties. Many cases in the material show that simple gastro-enterostomy in cases of ulcer that have not led to stenosis is not sufficient. There was recurrence of hemorrhage perforation of the ulcer and florid ulcer after three years. The material is too uneven and too recent to be used as a basis of judgment as to permanent results.

BURNETT.

Kanavel A B: The Duodenum Mobilization Traumatic Rupture and Toxemia. *T West ern Surg Ass St Louis* 1913 Dec.

By Surg. Cynec & Obs.

This contribution dealt with three questions: First the possibility of mobilizing the duodenum, second a consideration of traumatic rupture its diagnosis and treatment, third the question of toxemia developing in those cases in which the duodenum has been ruptured. Attention was called to the difficulty of reaching the third and lower portion of the duodenum by Kocher's method of mobilization and it was suggested that the following procedure should be used.

In the first of two cases going to operation the author experienced great difficulty in mobilizing by Kocher's method and in the second case of extraperitoneal rupture of the duodenum he raised the colon and made an incision in the peritoneum between the duodenum and the hepatic flexure of the colon. In the peritoneal covering of the colonic mesentery. The opening was enlarged by the fingers and the entire retroperitoneal duodenum in its lower part was completely exposed thus allowing of suture and treatment.

The cases of extraperitoneal rupture which the author reports (both cases were fatal) prevented marked toxemia and death was apparently due to this toxemia rather than to peritonitis, the absence of which was demonstrated by post mortem.

The question as to whether the toxemia was due to a secretion of the duodenum or to some other factor was discussed.

Pantzer H O: Fibroma of the Intestine Entangling in Intussusception and Obstruction. *Am J Obs Gynecol* 1913 Jan No. 3.

By S. G. Gynec & Obs.

The patient a girl of 15 years for three months had abdominal distress which on three occasions had been rather severe and had finally presented symptoms of bowel obstruction. Operation revealed an intussusception about 10 inches in length in the ileum 10 inches from the cecum. When the bowel was reduced the cause of the trouble was found to be a fibroma of the bowel wall the sessile attachment of which was marked by a white indurated depressed spot the size of a nickel.

Three inches of the affected gut were resected and an end-to-end anastomosis was done. The tumor was 1 1/2 by 2 1/2 inches in size. The recovery was uneventful.

N. SPROAT HEATLEY.

Venot H., and Parceller A: Primary Carcinoma of the Small Intestine (Le carcinome primitif du Jeuno-déon). *Rev de Ch* 1913, XI, 4, 687.

By Journal de Chirurgie.

Confusion in diagnosing tuberculosis is easy and so frequent that a diagnosis of cancer ought not to be accepted unless verified histologically. This localization of cancer is rare and Venot and Parceller have only found 47 authentic cases. It occurs frequently in men of from 40 to 60 years of age and it is usually in the lower or upper third.

It is generally ring shaped forming a ligature which constricts the intestine. It is impermeable sometimes even to liquids. The intestine is hypertrophied, dilated, and edematous there is an inflammatory pseudohypertrophy. The mesentery is thick, infiltrated and sometimes nodular from increase in size of the glands. Adhesions are frequent in vagination exceptional and perforation rare.

There are glandular metastases in 40 per cent of the cases and often metastases in the peritoneum or viscera—liver, ovary, testes, kidneys and rectum.

The diffuse form is characterized by the presence of multiple foci which develop in rare cases by autotransplantation or by metastases through the lymphatics or by simultaneous evolution.

There are exceptional cylindrical aneurysmal forms not causing stenosis which resemble sarcoma.

They are generally adenocarcinoma, rarely sarcoma, diffuse epithelioma, or colloid cancer.

A rare form is described under the name of carcinoid tumor of the small intestine. It has been found only at autopsy and is in the form of separate nodules opaque white and hard and occupying the free border of the intestine. Some say that the origin of these tumors is an aberrant pancreatic nodules others in the debris of the omphalo-mesenteric duct others in the glands of Lieberkuhn.

Clinically the onset is gradual, characterized by a continuous pain at the seat of the tumor or by colic which indicates the beginning of stenosis.

Vomiting is frequent as are also disturbances in the intestinal circulation. At the same time the general health declines and emaciation follows rapidly. The tumor cannot always be felt on palpation and it is in such cases that examination of the faces and roöntgen examination are valuable.

Intestinal occlusion is the most important of the complications and it occurs in 40 per cent of the cases. Diagnosis can be made when there are functional and physical signs of stenosis of the small intestine accompanied by early and pronounced changes in the general health. However differentiation from tumor of the stomach is not always easy, but examination of the stomach contents will usually settle the question. Confusion with tumor of the large intestine is more frequent.

But even in exploratory operation the gross appearance of cancer of the small intestine is not absolutely characteristic and is often confused with tuberculosis producing stenosis.

Prognosis is grave for it always leads sooner or later to occlusion in the forms with multiple foci it is even more grave.

The treatment may be radical or palliative. Of 36 cases reported by the authors 26 had resection performed of these 16 recovered and 10 died a mortality of 38.4 per cent. But ten of these were operated on after occlusion had taken place with seven deaths, or 70 per cent mortality. Of the 16 operated on before occlusion there were thirteen recoveries and three deaths, or 18.7 per cent mortality.

Palliative operations show a mortality of 60 per cent these figures being explained by the advanced stage of the disease when operation was performed. Artificial anus of the small intestine is so inconvenient and so grave that it is better to try enterostomy at a distance from the cancer.

Lengthy survivals are not rare. Kummer reports a case free from recurrence after 7 years and 7 months and Mikulicz one after 7 years and 5 months.

J. Ostrer

Guibé M.: Relations Between Appendicitis and Diverticulitis (Sur les rapports entre l'appendicite et la diverticulite). *Presse méd.*, 1913, xxi, 7, 3.
By Journal de Chirurgie

Simultaneous lesions of the appendix and a Meckel's diverticulum are probably quite frequent. They may be simply a coincidence or the one may be caused by the other. In the latter case it is generally the appendicitis that is primary and causes the diverticulitis.

A case is described of a young man of 17 who was operated on for a gangrenous appendix containing a fecal calculus. On operation there was found to be a free Meckel's diverticulum, at least 6 or 8 cm. long with a lumen about equal to that of the small intestine in which it was inserted. As the wound was infected it was decided not to remove the diverticulum. Drainage was inserted and the recovery was unaccompanied by complications.

Three and a half months later the patient returned to the hospital and on the day of his admission was seized with violent colic and vomiting for which a second operation was performed. With some difficulty the diverticulum was found. It was so adherent to the cæcum that it could not be freed without tearing the wall of the cæcum. The diverticulum was ligated and removed and the wall of the cæcum restored. Drainage was inserted followed by recovery.

On histological examination of the mucous membrane was found to be normal with no trace of inflammation. The subserous coat however showed marked thickening. It was as thick as all the coats together would normally be, and was extremely vascular. It was made up almost entirely of connective tissue presenting especially deep down

near the muscular coat a fibrous structure with wavy bands of connective tissue more superficially it was formed of elongated, fusiform fibroplastic cells. There was no sign anywhere of inflammatory nodules or of collections of leucocytes.

It was an inflammatory process which had terminated and the lesions were becoming organized moreover the process had extended from without inward progressing from the serous toward the mucous coat and almost entirely limited to the serous and subserous layers.

J. Dumort

Basham D. W. Retrocaecal Appendicitis. *The Western S. & A. St. Louis*, 1913, Dec.
By Surg. Gynec. & Obst.

The author recognized three forms of the disease based upon the anatomical situation of the appendix. He thinks that the location of the vermiform process has much to do with the character of the individual case. The limitations of the abscess in the event of suppuration being determined by the surrounding structures.

The three most frequent abnormal situations in which the appendix is found are (1) Posterior and external to the cæcum with the distal end of the appendix directed upward and within the peritoneum (2) posterior and external to the cæcum and without the peritoneal cavity and (3) directly behind the cæcum often just behind the valve of Bauhin.

He lays stress upon the frequency of obstruction of the bowels as a complication of appendicitis when the organ is situated just back of the ileocecal region. The author calls attention to the obstacles to a clear diagnosis in these unusual forms of appendicitis. Special mention is made of the ease with which certain cases may be mistaken for some obscure renal affection or disease of the gall bladder and reference is made to the unusual location of the tumefaction. Attention is also called to the absence of dullness on percussion and the presence of resonance when the appendix occupies a position directly posterior to the cæcum.

Reference is made to the presence of albumin and blood in the urine with frequent micturition when the inflamed appendix lies in close proximity to the ureter as it crosses the psoas muscle. The absence of rigidity in the muscles of the anterior walls of the abdomen is attributed to the fact that the posterior peritoneum instead of the anterior is involved in the inflammatory process. The pain which is often felt with greatest intensity in the lumbar region and over the upper and outer part of the thigh is explained by the fact that the nerves supplying these parts are pressed upon in their course outward across the psoas muscle beneath the inflammatory mass.

The author believes that suppuration is more frequent in these abnormally situated appendices than in appendices hanging from the caput cæci free in the peritoneal cavity. In the operation for post-caecal appendicitis the author insists upon

removal of the appendix perfect toilet of the abscess cavity and posterior drainage

Kostanecki A: *Comparative Morphology of the Cecum with Special Reference to Its Relation to the Peritoneum* (Zur vergleichenden Morphologie des Blinddarmes unter Berücksichtigung seines Verhältnisses zu den Bauchhöhlen). *Anat. Hefte* 1913 XI 1 u. 209

By Zentralbl. f. d. ges. Chir. u. L. Grawert

Kostanecki follows the gradual development of the cecum in the animal kingdom with the aim of explaining its relation in man and the other mammals. He lays special stress on the relation of the cecum to the peritoneum and the blood supply. Differences in the shape of different investigators are explained by individual differences, differences in age and especially by differences in the degree to which the cecum was filled and by the degree of contraction of the muscles. He finds in fish (Selachii) with finger-shaped glands and in some Teleostei as well as in amphibia that the cecum is a projection of the dorsal wall of the beginning of the terminal intestine in the dorsal layer of the mesentery directed toward the head that is that they have a dorsal cecum.

Since the cecum has developed with the layer of the mesentery and is covered smoothly and uniformly by both layers of the peritoneum, special peritoneal folds are not visible between these layers, branches from the superior mesenteric artery supply it and veins pass from it to the first part of the portal vein. In reptiles and birds there are transition forms between the above form and the mammalian.

The findings in reptiles must be regarded as variations on the way to the final form. The cecum in reptiles within the same orders and families shows great variations in situation, degree of development and form. It may be entirely lacking in some in some it resembles the deced dorsal cecum of the amphibia. In the majority of reptiles especially where they are of large size it is asymmetrical, being more strongly developed either toward the left or the right. This lateral placement the formation of a lateral cecum is the most striking characteristic in the reptilian group. The lateral cecum too either remains intermesenteric throughout its whole extent and only possesses the left or right peritoneal layer of the dorsal mesentery before it or at least it is intermesenteric at its point of junction to the large intestine and only its apex is free from the layer of mesentery.

In some groups of the reptiles there is a decided boundary between the lumen of the cecum and that of the large intestine. Moreover it is suspected from the macroscopic appearance that there is a histological difference between the mucous membrane of the cecum and that of the large intestine. Both these facts indicate a specific independent function of the cecum.

In the birds the form of the cecum shows great

variations as a rule birds have a pair of ceca of very large size. The cecum of cryptoprocera ferox is given as a type of the mammalian cecum, especially on account of the formation of its mesenteric folds. The mammalian cecum is a ventral cecum that is connected with the remaining intestine and the mesentery by three typical peritoneal folds viz: (1) The ileocecal vinculum analogous to the placental vinculum which connects the dorsal midline of the cecum with the ventral side of the ileum and (2) and (3) the right and left vascular mesentericocecal folds one on each side of the vinculum.

Zea Verna.

Eisendrath D N and Schmoor F W: *The Significance of the Jackson Veil in Hernia Surgery*. St. Louis, 1913 Dec.

By Surg. Gyner & Otis

From observations during operations from dissection of cadavers, and finally from examination of ten sutures the authors believe that the following conclusions may be drawn:

The peritoneocolic fold of Jonnesco synonymous with the pericolic membrane or Jackson veil, is a redundant portion of peritoneum which is constantly found during fetal or postnatal life. This membrane corresponds in every way to the description of Jackson's specimens given by Hale in his two principal papers published in 1903 and 1913 respectively. It is a fine translucent membrane which varies greatly in vascularity.

In some of the author's cases there were only a few fine capillaries, while in others the membrane was extremely vascular. The upper border of this right-sided pericolic membrane is almost invariably at the level of the hepatic flexure and its lower border from one to one and one-half inches above the lower end of the cecum. In some of the cases the lower border of the cecum extended a little farther down and covered the entire cecum and a portion of appendix or fused with the fold of Treves. In the great majority of cases this fusion did not occur.

The vessels of the pericolic membrane are as a rule directed downward and inward. In two of the authors' cases the membrane was as thick as ordinary cardboard and showed practically no vessels in the remainder. If the patients the membrane was very thin. The membrane extended inward across the front of the colon to the attachment of the mesocolon and either fused with the peritoneum covering the latter or fused with the omentum along the upper third of the ascending colon. These cases may be called normal. The membrane being a persistence of a fetal structure should under no circumstance be stripped off as such a step would result in leaving an extensive denuded surface.

From the examination of specimens and from observation in the living cases the authors believe that the great mesenteric fold of Reid is the fore-runner of the ileocolic band of Lane and bears the same potential relation to the Lane band that the pericolic membrane bears to possible kinks of the

ascending colon—that such constrictions occur can no longer be doubted. One case reported affords ample proof of the rôle which the Jackson veil may play in the production of acute and chronic obstruction of the ascending colon and cæcum but at the present time it is not clear to the authors what causes this change in the pericolic membrane from an innocent persistent foetal structure to the production of a distinct pathological entity. In their opinion Jackson, Pilcher, Gerster, Hunt and others have rendered a great service in calling attention to the various sequelæ of such pathological changes in the pericolic membrane.

In conclusion the authors believe that one of the chief objects of the investigation has been fulfilled by calling attention to the fact that there are two distinct types of pericolic membrane viz (1) Those which are innocent and (2) those which may cause mechanical interference with the function of the colon. Each case must be judged upon the operative findings and there is no justification in saying that every pericolic membrane requires interference—the majority are perfectly normal structures. Their examination of foetal cadavers confirms those of Gray and Anderson—that there is a left parietocolic fold corresponding in every detail to the same structure on the right side. It is a constant finding in the foetus and no doubt search for it in the future during operations on the left side of the abdomen will confirm these foetal observations.

The treatment of the pathological conditions due to the right pericolic membrane must depend on the findings in the individual case.

Lane W A Chronic Intestinal Stasis B J W J 9 3 1 1125 By Surg Gynec & Obst

In the original article Lane describes very briefly the different situations where intestinal kinks occur. He states that the kink at the ileo-cæcal region frequently causes appendicitis. The drag by the kink upon the duodenojejunal juncture causes a patency and stagnation in the duodenum tending to regurgitation in the stomach. A chronic pyloric spasm causes a dilatation of the stomach. The same stagnation may lead to inflammation of the gall bladder and ducts or to a pancreatitis. The kink at the sigmoid area leads to stagnation in the colon and secondary stagnation in the small intestines. The author gives the impression that many of the human ill can be in one way or another attributed to intestinal stasis e.g. Bright disease, Raynaud's disease, cardiac asthma, ulcer of the stomach, duodenum degeneration of the heart, pancreatitis, prolapse of organs, bends in the uterus, tuberculous infections when not produced by direct inoculation, rheumatoid arthritis and changes in the thyroid gland whether as adenomatous tumors, general enlargement of the thyroid or exophthalmic goiter etc.

When the patient is under treatment he advises first the use of paraffin daily to act as a lubricant producing one or more liquid movements a day.

This failing operative measures are undertaken. Resection of the large bowel with an ileocolostomy is easy otherwise merely an ileocolostomy. He never performs gastro-enterostomy for duodenal distention even if there be duodenal ulceration. If cicatrization has produced a narrowing a gastro-enterostomy is performed. In ulceration of the stomach with no suspicion of cancerous infection in addition to a short circuit with or without colectomy he does a gastro-enterostomy to take the strain off the lesser curvature by draining the stomach. He states that the only risk presented by the operation of short circuiting and colectomy is that of adhesions of the intestines to one another or to the abdominal wall in such a manner as to produce a varying degree of obstruction.

M S HENDERSON

Vignolo G Mobilization of the Intestine by Section of the Pelvic Mesocolon to Re-establish Direct Continuity of the Intestine in a Case of Resection of the Sigmoid Flexure and a Part of the Descending Colon (Mobilisation basale du mesocolon pelvien pour rétablir la continuité directe de l'intestin dans les résections du colon iliaque et de la portion terminale du colon descendant) *Riforma med* 19 3 18 899

By Journal de Chirurgie

Vignolo reports the case of a man of 49 who was operated on for an ulcerated cancer of the sigmoid.

The first stage of the operation was the making of a cæcal anus. The second was undertaken six weeks later and laparotomy showed that the neoplasm involved a part of the descending colon and almost all of the sigmoid flexure; the segment involved though adherent to the ilia was easily dissected and removed but on attempting to approximate the two ends they were found to be 10 cm apart. The superior segment was 3 cm above the crest of the ilium while the lower one rested in the iliac fossa directed downward. An end to end anastomosis was impossible; the end of the pelvic loop could not even be drawn up far enough to permit of a termino-lateral anastomosis. But it seemed possible to accomplish this by incising the base of the pelvic mesocolon; this incision was carried to the sacral promontory and allowed the two segments to be brought together in a side to end anastomosis. After tamponing a partial suture of the upper part of the laparotomy wound was done. Thirty days after the operation the cæcal anus was closed under local anesthesia. 45 days afterward the patient had completely recovered.

The segment of colon removed was 20 cm long and 6 to 7 cm broad at its widest part. Its wall was more than 2 cm thick; the average diameter of the lumen about 1½ cm. The mucous membrane was deeply ulcerated above as well as at the level of the stenosis. Histologically it was found to be an infiltrating adenocarcinoma of the intestinal wall. The author seems to want to make his operation a general surgical procedure for the approximation of two segments of intestine where one is fixed and the other movable in a mesentery.

AMULET

Duval P: Indications for Intra and Extra Abdominal Colectomy in Cancer of the Colon (Sur les indications respectives de la colectomie intra-abdominale et des colectomies extra-abdominales dans les cancers des colonas) *B II et méd Soc d chi de Par* 1913 xxxix 070 By Journal de Chirurgie

In the treatment of cancer of the colon there are three methods in use (1) Intra-abdominal colectomy with immediate suture of the colon called colectomy in one stage (2) removal of the coil of colon from the abdominal cavity with or without the formation of a temporary anus in situ with extra abdominal colectomy afterwards, called colectomy in two stages (3) colectomy with immediate formation of an anus in situ Colectomy in three stages is really an intra abdominal colectomy preceded by the construction of an artificial anus above the seat of disease

These three methods have been considered rivals and each has had its ardent adherents, but Duval believes each has its special indications

In the first place the question is unanimously agreed on as far as the cecum, the ascending colon, and even the hepatic flexure are concerned Resection of the cecum and the ascending colon is always carried out at one operation All are agreed on one other condition namely where there is acute obstruction. All authorities agree in making a fistula of the cecum in these cases and delaying laparotomy until the acute symptoms have passed

The discussion is therefore limited to cases of cancer of the transverse colon and of the left colon not complicated by acute obstruction In these cases the indications depend on (1) The clinical conditions (2) the pathological condition of the colon and (3) the seat of the lesion

1 Obesity heart disease, kidney disease or chronic intoxication absolutely contra indicate operation in one stage

2 When the upper end of the colon is dilated and especially when it is rigid immediate suture is not indicated unless the two ends are practically equal in size and unless the walls of the upper end are pliable enough to permit of perfect approximation and suture Moreover colectomy in one stage to be safe, should be preceded by the establishment of an artificial anus which will allow the colon to be emptied and disinfected

3 The last point to be considered is the site of the lesion Some say colectomy in several stages should be done on fixed colons and in one stage on mobile colons But by performing colo-pannetal dissection one can immobilize the colon except, perhaps, the splenic flexure so this destruction would seem to hold good only in cases in that region

J DUNN

rectum is very unsatisfactory The average number living three years after treatment is only 16 per cent Furthermore from 25 to 50 per cent of the cases which present themselves to the surgeon are already in an inoperable condition The author concludes, therefore that from 4 to 8 per cent of the cases which present themselves to the surgeon are alive three years after operation In order to improve these results the author makes an appeal for two things (1) An earlier diagnosis, and (2) a more complete removal of the carcinomatous tissue

The diagnosis of carcinoma is rarely made early and oftentimes a probable diagnosis of hemorrhoids is made In fact in 10 per cent of the cases which present themselves at the Mayo Clinic, there has been a previous operation for hemorrhoids It may well be presumed that a much larger percentage of cases had been treated in some way for hemorrhoids Many of these cases could, in all probability have been diagnosed much sooner by a careful rectal examination

The operation which is suggested is a very extensive dissection by both the abdominal and sacral route It depends for its rationale upon the recent study of the lymphatics of the rectal region The main lymphatics follow the general course of the three systems of blood vessels namely the superior middle and inferior hemorrhoidal vessels In addition there are lymphatics extending from the posterior portion of the pararectal plexus and from the insertion of the levator ani muscles these glands empty into the lateral sacral glands and the glands above the promontory

The technique of the operation is carried out in two stages In the first stage a median abdominal incision is made the sigmoid is sectioned the incision being carried down through the mesentery to the inferior mesenteric artery which is tied by two ligatures and cut The lower sigmoid and rectum are then dissected from the sacrum the peritoneal leaves dissected from the sides of the rectum leaving all fat attached to the rectum The ureters are found and isolated after which all fat and glands in the pelvis are separated from the pelvic walls and vessels by blunt dissection The rectum is then separated from the bladder after which the distal end of the sigmoid is dropped into the pelvis and the peritoneal flaps brought together over it The proximal end is brought out through the wound and attached there for a permanent colostomy

The second step of the operation is in most cases, carried out by the author immediately The anus is closed by a suture r ligature an incision made about it and the dissection carried up to meet that made in the abdomen The whole mass is then brought out through the perineal wound

In some of the author's cases he has allowed several days to elapse between the two steps Spinal anesthesia is then used for the second stage The sigmoid which has not been cut at the first operation is sectioned the proximal end being inverted and left as an appendage t the colostomy The

Jones, D F: Carcinoma of the Rectum *B 100 M & S J* 19 3 clxx 707

By Surg Gynec. & Obst

Statistics are presented by the author to show that the present treatment of carcinoma of the

remainder of the operation is practically the same as when both stages are carried out at the same operation
J H SCURR

Depage and Mayer The Surgical Treatment of Cancer of the Rectum (*Traitément chirurgical du cancer d rectum*) *Arch. prov. de Chir.* 9 3 xxi 332
By Journal de Chirurgie

This report to the Belgian Society of Surgery is a general review in which the authors describe their own method of procedure. They lay great stress on the preparation for operation. They do not believe in the routine formation of an iliac anus; they use it only in cases of obstruction or in cases in which the cancers are inoperable because they are immobilized by inflammatory infiltration around them.

They purge their patients several times before the operation and empty the intestine by two or three enemata the evening before and the morning of the operation. For several days they give 15 gms. of salol per day.

Except in the abdomino-perineal operation the patient is placed in the ventral position which exposes the operative field to good light and also decreases hemorrhage.

In case of cancer of the lower part of the rectum the authors practice amputation by the perineal route which is followed by incontinence while for tumors of the middle portion of the rectum and also for the upper part of the ampulla they use the sacral route. Their technique is as follows:

With the patient in the ventral position a median cutaneous incision is made passing from the middle of the sacrum to three or four centimeters above the anus, followed by liberation and resection of the coccyx. The rectum circularly detached from the neighboring organs below the tumor is then tied with strong silk and cut below the ligature. A supplementary suture of strong silk hermetically closes the upper segment which is detached from the sacrum and its lateral and anterior insertions and brought down. The peritoneal cul-de-sac, which is open during these maneuvers is carefully sutured when the organ is brought down far enough. The diseased portion of the rectum being resected the two ends are united by invagination; the proximal end being drawn through the anal portion and fixed at several points to the skin. If the tumor is near the sphincter the mucous membrane is removed from all the lower part and the upper end invaginated through the denuded sphincter. The breach is left open with a Mikulicz tampon. In cases where rectosigmoid cancers have invaded the entire rectum the abdomino-perineal route may be used.

Goeppel has recommended the high peritonization of the abdomen incising the wall transversely above the pubis, detaching the parietal peritoneum from the upper edge and fixing it by a few sutures to the posterior pelvic peritoneum; thus the greater peritoneal cavity is excluded from the field of operation. In April 1912 he had practiced 21 amputations of the rectum by this method with only 3

deaths though all other statistics of abdomino-perineal amputation give 25 to 45 per cent mortality.

The after treatment is very important. There should be an abundant dressing of gauze and cotton which should be renewed as soon as it becomes soiled. During the first few days there should be a tolerably strong pressure on the wound. The patient is kept constipated for 7 or 8 days with 3 pellets of 2 centigrams each a day.

The tampon is removed at the end of 48 hours and a daily irrigation of dilute oxygenated water or potassium permanganate. The cicatrization of the wound which requires from 6 to 20 weeks demand great watchfulness especially when as frequently happens a fistula is established in the lower portion of the invaginated segment. It is well when the patient can stand it to put a large drain through the anus into the superior segment. If recurrence does not take place within 6 years permanent recovery is assured.

GEORGES LARBY

Hies, M. R. J. X Ray in the Diagnosis of Abnormalities in the Intestinal Tract. *Med. Press & Circ.* 1913 xvi, 342.

By Surg. Gynec. & Obst.

The author opens his subject with a quotation from a former paper entitled 'X Rays in the Diagnosis of Urinary Calculi' which is worthy of repetition. It follows:

Radiology should be employed as an aid to and not a substitute for the ordinary methods of diagnosis. The X ray has proved to be such a short cut in the diagnosis of so many conditions and it has relieved us so much of the necessity of making a careful analytical study of symptoms and signs that we are becoming more and more inclined to resort to it to the exclusion of other trustworthy methods of clinical investigation.

The cervical portion of the esophagus is best seen in the right or left lateral position; the thoracic in the right anterior or left posterior oblique. To visualize the shadow bismuth carbonate is given in cachets of ten to fifteen grains each or mixed in the proportions of two to four ounces to the pint of sago and milk arrowroot or bread crumbs. The author reports two interesting cases of complete obstruction of the esophagus caused by the filling of diverticuli with food.

On fluoroscopic examination the pouches could be seen in each case to fill distention caused discomfort pressure on the left side of the neck caused the ejection of the contents into the mouth or inclining the head and neck forward and to the right permitted portions of the bismuth to pass into the stomach. One patient radiographed four days after the examination showed the pouch still full of bismuth.

The author contrasts the X ray picture of spasmodic cicatricial and malignant stricture. Spasmodic stricture usually occurs at the cardia; the bismuth bolus appears in an elongated oval mass with rounded head and tapering tail; it accumulates

above the obstruction, peristaltic activity increases, regurgitation but seldom vomiting may occur the pæsim suddenly relaxes and the food enters the stomach with a rush.

Cleatrical contraction occurs usually above the diaphragm the food trickles through in a narrow stream peristaltic activity becomes violent regurgitation may occur but the food never enters the stomach with a rush. Malignant stricture occurs frequently in men. It is located at the cardiac or the level of the bifurcation of the trachea the food passes normally to the obstruction or into a dilated pouch above it if closure is not complete in a thin stream through it peristaltic activity is weak or absent or reverse in action with ejection of food glandular shadows may be present.

He next describes the normal stomach in the erect and horizontal positions. In the erect the upper two thirds of the lesser curvature is vertical and one and one half inches to the left of the vertebral column the lower one third curves abruptly toward the median line in the region of the umbilicus the pylorus being seen two inches above and to the right. The greater curvature extends to a line drawn transverse between the summits of the iliac crests. In the horizontal position, the cardiac portion is broad and the pyloric corpesion highly narrow the greater curvature being two to three inches above the umbilicus. The author mentions Holzkecht's four types of normal stomach the hypertonic orthotonic hypotonic and atonic remarking that the hypertonic form is very rare.

The author next discusses gastropyloric ulcers benign and malignant and hour glass stomach. The degree of ptosis can be estimated by measuring the distance of the greater curvature above a line drawn transverse between the summits of the iliac crests. The dropped stomach is critical in position dilated and hypotonic the cardiac end being elongated and tubular. If the pylorus is not displaced the lesion appears to be due to loss of muscular tone in both the stomach and abdominal wall. The greater curvature may descend to the symphysis pubis without symptom. The weight of the bismuth meal does not cause descent of the stomach. Changes in shape due to indigestions in diet over loading, atonic abdominal muscles repeated pregnancies and tight lacing cause no symptom.

Associated with ulcers of the stomach is often a spasm of the muscle which produces an hour glass appearance and interferes with normal peristaltic movement. The author has not found that the point of maximum tenderness on palpation indicates the site of the ulcer and he considers this sign misleading.

The true hour glass stomach must be differentiated from the abdominal from the pyloric constriction of the mid gastric plicature which relaxes after some minutes or disappears when the stomach is massaged.

The characteristic shadow of the true hour glass stomach is that of an inverted cone with pyloric

portion a more or less narrowly constructed portion with jagged margins and a pyloric portion increasing in size with the passage of the bismuth.

In conjunction with the duodenum, the author mentions especially a ludojejunal kink caused by the sudden descent of the jejunum resulting in dilation of the duodenum with violent peristaltic activity.

He mentions the possibility of demonstrating obstructive lesions adhesions, and kinks in the ileum and colon by continuous observations during the passage of the bismuth through these organs. He gives the normal time for the passage of the bismuth meal at the various points as follows:

- 1 Pylorus in from five to ten minutes.
 - 2 Stomach empty in from four to six hours.
 - 3 Enters caecum in from three and one half to four hours.
 - 4 Ileum empty, in seven hours.
 - 5 Ascending colon full in 12 hours.
 - 6 Splenic flexure reached in eight or nine hours.
 - 7 Rectum filling, in twenty to twenty four hours.
- No purgatives should be given or the days immediately preceding the examination nor should constipation be present.

Ternoin and Baur: A Case of Human Distomatosis (Un cas de distomatose humaine observé en Berry). Arch. fr. Ch. 19 3 222, 1911.
By Journal de Chirurgie.

A woman of 40 had been treated since 1903 for symptoms of hepatic colic without jaundice. She had a second attack in September 1909 and a third in November of the same year. After that time there was a decline in her general health and she became much emaciated and sometimes had attacks of vomiting melana and epigastric pain. In May 1911 a tumor appeared which was hard and painful on pressure and seemed to be located in the greater curvature of the stomach.

In June 1911 a diagnosis of gastric tumor was made. The tumor seemed to be adherent to the wall at the level of the greater curvature but it appeared to be limited and about the size of a large nut.

Upon operation in June 1911 the tumor was found to be adherent to the stomach which however was not involved and the adhesions were easily freed. The tumor with the part of the wall adherent to it was removed after which the patient rapidly recovered health and weight.

Histological examination of the specimen showed that it was made up of fatty omental tissue the meshes of which were filled with an infiltration of leucocytes markedly eosinophilic. In the center of this infiltrated area careful examination showed distoma hepaticum.

Examination of the blood June 20th showed eosinophilia which had disappeared by July 8th. In the faeces examined June 29th there were found neither ova nor parasites.

It is almost certain that the ileo disturbance a

the past had been due to distoma and that this focus localized in the omentum through the blood stream, had made the diagnosis possible

Study in the countries where distomiasis is common shows that there is no very characteristic symptomatology for human distomiasis and it is confused with ordinary affections of the liver. However diagnosis is possible in countries where animal distomiasis is prevalent by making a study of the leucocytes and complement deviation and examining the faeces for adult parasites or ova

GEORGES LABEY

LIVER, PANCREAS, AND SPLEEN

Debrecz L. Pathogenesis and Treatment of Lithiasis of the Gall Passages (*Le traitement et la pathogénie de la lithase biliaire*) *Arch. gén. de Méd.* 1913 No 8 9 4 *Bj Journal de Chir.*

Debrecz has made a histological and therapeutic study of 58 cases from Winwarter's Clinic. He divides them into two classes, according to age: those below and those above 32 years of age. In young subjects acute inflammatory symptoms predominate, and often there is impaction of the calculus in the common duct.

The gastric pain so often complained of here is due to the location of the stone in the neck of the gall bladder. It can be reproduced by forcibly injecting liquid through a fistula in the bladder.

He believes that in cholecystitis as well as in appendicitis one attack is an indication for operation; no time should be wasted by waiting till graver symptoms appear. The indications for cholecystectomy and cholecystostomy have been discussed so often that it would hardly be worth while going into this part of the work, but for the fact that in Winwarter's Clinic cholecystectomy is rather the exceptional operation. He preserves the gall bladder only when he fears that otherwise he would have to resort to complicated and dangerous procedures to restore the course of the bile. He advises a careful exploration of the neck of the bladder and the cystic and common ducts, for he thinks the recurrences after cholecystostomy are not due to the operation itself but to the fact that the biliary passages were not carefully examined.

The second and longer part of the work is devoted to the pathogenesis of cholelithiasis. He does not settle the question but makes an interesting contribution to it based on experimental work and laboratory examinations. He recalls the theories of the septic and aseptic origin of lithiasis, and the old theory of Maunayn recently taken up by Chauffard. He discusses Riedel's dualist theory which Aschoff and Baumeister defended in 1909. These authors believe that there is a clear distinction between the radiate calculi made up of pure cholesterol which originate solely from stasis of bile in an aseptic bladder and the other forms of calculi which originate only in an infected bladder.

Debrecz has studied the two factors of stasis and infection and concludes that there probably is no difference in the origin of the cholesterol calculi for only the covering is of pure cholesterol formed around a mixed center of the same composition as the mixed calculi. Cholesterol crystals arise in the bladder only when it is sterile, the exception being one case where it was infected with typhoid bacilli. During a septic period the crystals become coated with biliary pigments.

E. DESMAREST

Mayo C. H. Cholecystitis and the Factors That Control Results of Operation. *Tr Western Surg. Ass.* St. Louis, 1913 Dec.

By Surg. Gynec. & Obst.

Mayo notes that the results of operation for cholecystitis are influenced by many conditions besides those in the gall bladder itself. Among these he enumerates infections within the liver and bile ducts causing changes in the balance of the acidity of the stomach and of the alkalinity of the duodenum, the presence of pyloric spasm and changes in the pancreas. He calls especial attention to a group of lymphatic glands extending along the common and hepatic ducts and on the cystic duct and notes that any case of cholecystitis with sufficient infection to produce symptoms will necessarily affect these glands. In the majority of cases, if these glands are much enlarged one will find a lymphoedema of the head of the pancreas as well as an infection of the gall bladder; an exception is the general swelling of the mesenteric glands through malignancy or gross abdominal infection. The majority of cases of cholecystitis are undoubtedly best relieved by cholecystectomy.

Davis C. B. and Lewis D. D.: Repair of the Common Duct by Means of Transplanted Fascia. *Tr Western Surg. Ass.* St. Louis, 1913 Dec.

By Surg. Gynec. & Obst.

Following partial destruction of the common bile duct temporary continuity of the passage of bile between the ends of the severed duct has been attempted in a variety of ways. Sullivan in dogs and Wilms and Brewer working in man, have used successfully a rubber drainage tube as a link between the hepatic duct and the lumen of the duodenum while new tissue was developing. Lewis and Davis have transplanted free fascia from the abdominal wall to bridge gaps in the common duct and to patch partially severed ducts.

Dogs were examined and specimens taken for histological examination over a period of one week to two months. At the end of two months the fascial flaps were found alive and lined by a layer of mucosa that had extended from the remnants of the common duct. The bile had passed into the bowel resulting in normal colored stools. Successful repair of the ureter by means of free transplanted fascia was also reported by the authors.

Seidel H: Acute Necrosis of the Pancreas (Klinische und experimentelle Beiträge zu akuten Pankreasnekrosen) *Berl. Klin. Wochenschr.* 1913 lxxx 339

By Zentralbl. f. d. ges. Chir. u. l. Grenzgeb.

Seidel reports ten cases of acute pancreatitis giving case histories in detail. The beginning was always acute except in two instances where in definite stomach and intestinal disturbances preceded the pancreatitis by several days. The symptoms were those of circumscribed peritonitis. In six cases there was tension in the region of the pancreas. In four cases the urine contained no albumin and six only traces of it. In two cases it contained a slight amount of sugar. Cammidge's reaction was tried in four cases before the operation and in three cases afterward. It was positive four times and negative three. A history of alcoholism was found in one case and was probable in two others. Seven patients suffered from obesity. Gall stones were present in six cases and absent in three. In one case they were not looked for. Arteriosclerosis was found in one case. In another case necrosis of the pancreas was caused by stasis in the stomach and duodenum, resulting from a kinking of the intestine. Another patient had a subphrenic abscess which discharged into the pleura and a secondary pleural pancreatic fistula developed.

The author distinguishes three forms of necrosis: hæmorrhagic, necrotic, and purulent. He defines the clinical symptoms belonging to each and points out that they are merely different stages of the same process. Three of the patients operated upon recovered, while seven died. As far as the pancreas itself was concerned the operation consisted of tampon and drainage.

In the second part of the work the author describes experimental work that he has done on dogs. His conclusions were that bacterial infection through the blood or lymph channels could not be demonstrated as a cause of acute pancreatitis. He is not at all convinced that pancreatic necrosis is caused by embolus, thrombosis, stasis, anemia, or arteriosclerosis of the pancreatic blood vessels. Stasis of the pancreatic secretion causes only chronic inflammatory processes and not acute necrosis of the pancreas. The transformation of trypsinogen into trypsin plays an important part in the entrance of toxic substances into the pancreas. Seidel believes that such toxins may enter the pancreas from the duodenum as well as from the gall passages. Acute necrosis of the pancreas may be caused by the different components of the contents of the duodenum and gall passages: bacteria, gall, unneutralized gastric juice, fats, oils, soaps, fatty acids, trypsin, etc.

O. NORDMA

Blaxland A. J. and Claridge G. F. C. Remarks on Acute Pancreatitis with Note on Seven Cases. *Brit. Med. J.* 9 3 4, 43

By Surg. Gynec. & Obst.

This article is based on six cases observed by the author all of which terminated fatally—four were

operated on and two died undiagnosed. This is at variance with the ordinary statistics, which give 40 per cent recoveries. In five of the six cases gall stones were present and in the other there was evidence of old inflammatory trouble. Only one patient gave a history of biliary colic. Three patients had had indigestion for a year with or without hæmatemesis. In all cases there was sudden onset and copious vomiting. In four of the cases collapse was a marked feature. M. S. HERMANOV.

Beiley F. A.: A Discussion of Pseudopancreatic Cysts; with a Report of Four Cases. *T. West. Surg. A.* St. Louis 913 Dec

By Surg. Gynec. & Obst.

The author first suggests that the name should be changed, the present term not being descriptive of the pathological condition. In a review of the literature he finds that Loyd first accurately described the condition. An analysis of early case reports of so-called pancreatic cysts due to trauma seems to show that most of them were probably pseudocysts.

The author reports from cases which came under his observation—two at Cook County Hospital, one at Wesley Hospital and one at the Post Graduate Hospital. All four cases received violent injuries in the upper abdomen and each case showed some immediate reaction from a mild peritoneal attack. A tumor developed in from ten days to three weeks, appearing as a mass to the left and above the umbilicus. In three cases the distended stomach was above the tumor and the colon below it. In the first case the mass projected above the stomach. Fat necrosis was observed in two cases, and in two cases the fluid contained pancreatic ferments. The four cases reported were all treated by incision and drainage and all of them made an uneventful recovery.

MISCELLANEOUS

Linkenkeld J. Interpretation of Post Operative Symptoms, after Laparotomy (Beitrag zur Beurteilung postoperativer Beschwerden nach Laparotomie). *Ztschr. f. Geburtsh. u. Gynäk.* 19 3 lxxv 6

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The author thinks that the appearance of symptoms due to post-operative adhesions is exaggerated. Symptoms of adhesion appear only when the lumen of the intestine is temporarily or permanently narrowed, when there is traction on the mesentery or when adhesions of the omentum exert traction. These are the decisive points in operations for adhesions. The persistence of symptoms after operation is generally not due to adhesions even when they exist but to a failure of the operator to get at the real cause of the disease. The best procedure, therefore, for avoiding post-operative difficulties is thorough accuracy in diagnosis and indications, before and during the operation. There should be

fewer operations for insufficient indications and more accurate knowledge as to the significance of symptoms in the region of the caecum gall bladder and stomach. Of course the formation of adhesions

may be avoided by careful technique and by covering all exposed places and the stump of the omentum with peritoneum

BOETTENGER

SURGERY OF THE EXTREMITIES

DISEASES OF BONES JOINTS MUSCLES ETC. GENERAL CONDITIONS COMMONLY FOUND IN THE EXTREMITIES

Fehér A.: Changes in Bones in Infectious Diseases of Childhood (Über Veränderungen der Knochen bei Infektionskrankheiten in Kindesalter) *Vorlesung Arch f path Anat etc Berl* 1913 cccxii 295 By Zentralbl. f. d. ges. Chir u. Grenzgeb

It has long been known that infectious diseases can cause changes even in the bones (Charni Fraenkel Kasowitz etc.) The author made examinations in 35 cases of children almost all of whom had suffered from scarlet fever measles, diphtheria whooping cough. Of the 35 cases there were only 7 that showed no microscopical changes, but even among these there were 4 that showed bacteria in the sections. In infectious diseases in childhood there is almost without exception a distribution of bacteria in the capillaries of the bones particularly at the boundaries of the cartilage. The changes in the bone consist of a collection of lymphocytes in the cavities of the marrow, and in the proliferation of spindle-shaped cells of osteogenetic origin. These changes correspond to those of the early stages of rickets and to those that are produced experimentally in animals by giving a diet poor in calcium. The author concludes that rickets is to be regarded as the result of inflammatory processes

THEKMAN

Klemm P.: Changes in Bone Tissue in Osteomyelitis and Its Causes (Über die Veränderungen der knöchernen Grundsubstanz bei Osteomyelitis und ihre Ursachen) *Deutsche Ztsch f. Chir* 1913 ccc 309 By Zentralbl. f. d. ges. Chir u. Grenzgeb

From his study of bones affected with osteomyelitis Klemm believes that the osteoblasts and all related cells take part in bone production. Absorption of osteomyelitic bone takes place in the following way. The infected, proliferating marrow liquefies the bone without forming sequestra, absorption takes place by lacunar corrosion under the influence of special cells the osteoclasts which are not formed as such, but originate from the osteoblasts and can again change their function and become osteoblasts

THEKMAN

Skellern P. G. Syphilis in the Etiology of Fibrous Osteitis *Am J M S* 9 3 cclvi 53 By Surg Gynec & Obst

Elmslie says. Beyond the opinion that fibrous osteitis is an inflammatory lesion we must acknowledge that at present we know nothing of its pathol-

ogy. Bloodgood has not been able to find any definite etiological factor.

The author after reciting the history of his case, endeavors to establish premises upon which he concludes that this is not many other similar cases is due to syphilis of the late hereditary form. The patient a man of 22 complained of a left-sided limp. He was in perfect health until seven years previous when, having been thrown from a horse he sustained a slight injury to the left hip and was treated for fracture. Two years before the fall he had noticed that the thigh was swollen and painful and that the leg was bowed. His family history was directly negative but indirectly suggestive.

Upon examination he showed excellent general health and condition. The left thigh was greatly bowed the convexity being outward the femur was thickened and roughened but not tender and there were no sinuses nor remains of them. The leg was shortened two and a half inches all of the shortening being below the neck. The chronicity of the lesion absence of pain when at rest lack of sinuses or cachexia with a positive Wassermann suggested syphilis.

The skiagraph showed an increase in the diameter of the shaft with an interruption of the medullary cavity with contiguous areas of bone production and bone absorption and a clear line of pathological fracture.

Under a year's mixed treatment and an ambulatory splint together with neosalvarsan twice weekly the condition had greatly improved sufficiently to warrant an osteotomy for the correction of the deformity.

A similar case of Elmslie's is also reported and from these cases the author concludes that fibrous osteitis in some cases at least is identical with late hereditary syphilis of the bone.

The connection of syphilis with this and other bone diseases of obscure etiology should be thoroughly worked out with the aid now afforded by the Wassermann reaction. The disease is curable by conservative measures and may be struck from the fast-shrinking list of bone diseases requiring amputation.

H. A. PORTS

Percy J. F. Osteitis Fibrosa Cystica *Surg Gynec & Obst* 1913 xvi, 536

By Surg Gynec & Obst

The author describes a case of osteitis fibrosa cystica occurring in a girl 23 years old the disease involving both ilia and the heads of both femurs. The diagnosis was made by means of X ray pictures.

There was a history of trauma at 6 and 8 years. At 12 the patient developed lameness, some soreness and pain—at first, on motion later continually. The patient was operated upon the cysts of the femur being curetted and four months later those of the left ilium were curetted and Von Mosberg's bone paste injected. The operation relieved her of all pain and gave her a feeling of security in using the affected joint.

The author reviews the literature and calls attention to the fact that the disease is not so uncommon as its failure of mention in the literature of the English-speaking world would indicate. He notes that many tumors of bone classed as sarcomatous are undoubtedly cases of osteitis fibrosa cystica. By analysis of the literature (Boit Rehn Bockenheimer) he shows the identity of osteitis fibrosa cystica, Paget's disease, leontiasis ossea and snuff disease of swine. He states that the indications for operation can safely be enumerated as follows:

1. Interference with function and the development of deformity
2. Pressure upon important vessels, nerves and organs
3. Prevention of pathological fracture from a large osteoporosis resulting from the disease. When this occurs operation is contra-indicated, as a process of repair seems to be immediately initiated. It is the author's belief that when the pernicious character of the pathology is considered especially in relation to the ruinous work of the osteoclastic cells a permanent recovery cannot be secured except by radical operation.

Ridlon J. Osteochondritis Dissecans. *J Am M Ass* 1913 17: 777. By Surg. Gynec. & Obst.

The author reports three cases and reviews one previously reported by Freiburg. He presents roentgenograms of anterior and lateral views of normal knees and knees showing the above condition.

His cases are of active, vigorous young men presenting knees which have given them trouble now and then through a period of many years which show nothing save a little swelling, a lack of full extension at times from contracture of hamstring muscles and now and then give a little pain. Nothing is shown on which to base a diagnosis until a careful study of good roentgenograms is made.

His roentgenograms show a detached body about the size of a date seed on the lower surface of the internal condyle or on the outer aspect of the condyle or perhaps the lower surface of the condyle has lost its normal convexity. All of his cases refused operation.

In a review of Freiburg's case the X-ray shows two pieces separated from the internal condyle. On operation there was found a loose body the size of a cherry attached to the internal condyle by a slender pedicle of connective tissue and synovial membrane. The cartilage appeared different in color and pressure on it seemed to indicate that it

was loosened from the underlying bone. The author does not discuss etiology. J O WALLACE

Sellheim H. The Effect of Castration on the Growth of Bone in the Sexually Mature Organism; and the Relation of Castration to Osteomalacia (Der Einfluss der Kastration auf das Knochenwachstum in des geschlechtsreifen Organismus und Gedanken über die Beziehungen der Kastration zur Osteomalacie). *Ztschr f Geburt u Gynäk* 1913 1xxv, 362.

By Zeitschr f d ges Gynäk u Geburtsh u d Grenzgeb.

After Sellheim had found in 1899 from experiments on animals, that castration performed before puberty nullifies the relative cessation in the growth of bone that normally takes place at puberty, he went on with experiments designed to determine the influence of castration on the bones of the sexually mature organism.

He used deer for the experiments. The horns, growing from a core in the frontal bone which are formed during the time of sexual inactivity are shed during the time of greatest sexual activity and the period of rest that follows it. If a male fawn is castrated there is no formation of a bony core or of horns. The frontal bone keeps the female form. But if the animal is castrated after the formation of the core there is a permanent production of bone instead of the regularly intermittent growth. The demarcation between the horns and the frontal protuberance does not take place at the usual time; the horns are not shed. Through the continuous growth of bone proceeding from the periosteum to the periphery an enormous formation develops—wag like antlers.

With the removal of the reproductive glands the periodic inhibitory effect on the growth of bone at least of the bony core of the horns, ceases. We can therefore assume a causal relation between the periodicity of the sexual life and the periodicity in the formation of the horns. The reproductive glands limit the growth of the body at the time of the greatest reproductive demands upon it—maturing time and pregnancy. Perhaps osteomalacia and the favorable effect of castration upon it is explained in this way. If we admit that in human pregnancy the ovary or the changes taking place in it during the puerperium may produce effects later on the metabolism of the mother's bones, osteomalacia may be regarded as a pathological increase of this effect or if we assume an abnormal constitution on the part of the mother it is a pathological effect of a process that is in itself normal. Bismarck

Vaughan R T. Multiple Exostoses An Hereditary Affection of the Bony Skeleton. *Tenn Surg J* St Louis 1913 Dec.

By Surg. Gynec. & Obst.

The points which are emphasized by the author are that all cartilaginous exostoses are congenital in origin, being demonstrable probably at birth though usually not recognized by patients or clinicians.

cians until years later that the tendency to their formation is hereditary and transmissible that they are frequently accompanied by other developmental defects of the skeleton some of which are characteristic of the affection and that these tumors may be accompanied by congenital defects of other body structures.

The stunted growth of these individuals is what strikes the attention at once. They look like rachitic dwarfs but do not have the static deformities of the long bones as do rachitics. Their most frequent and characteristic deformity is the defect in the lower epiphysis of the ulna which leads to a compensatory bowing of the radius, accompanied by ulnar dislocation of the hand and sometimes dislocation of the radial head especially when the latter is large and deformed. Synostosis of the radius and ulna sometimes occurs, as in one of the cases shown and also synostosis of the tibia and fibula. Genu valgum and pes equinovarus have been noted. Locking of the joints may occur with large exostoses. Sometimes the tips of the exostoses are provided with a bursa which at times connects with neighboring joints.

As a rule cartilaginous exostoses and enchondromata appear in the first years of life most frequently between the fourth and sixth years. In many or most cases, however the exostoses are first recognized by the physician, since they may cause the patient no symptoms. The more carefully the newborn children in exostosis families are examined especially with the X ray the more frequently will congenital exostoses be discovered.

The fact that cartilaginous exostoses as well as enchondromata represent congenital anomalies of the skeleton has not been generally recognized and accepted until a comparatively recent time. Since these tumors are usually not noticed until late in youth when they obtain a considerable size and since the patients themselves usually consider them an acquired affection the medical profession has been late in recognizing their congenital origin. Of late years however there have been a number of cases recorded in which these exostoses were noted at or shortly after birth.

The hereditary character of the affection was known long before the fact came to light that these exostoses are frequently congenital and that more males are affected than females. Reinecke, Teissier and Betard, Boyer, Fischer, Sonnenschein and Drescher, Weber and others have described such exostosis families.

The etiological factors of these bony and cartilaginous growths are practically unknown. In several exostosis families intermarriage of near relatives has been noted. According to von Bergmann it is a disease *susceptibilis* representing a disturbance in growth of the intermediary cartilage due to an original defective anlage. Various authors have considered that rickets might be a factor in the origin of the affection. Doubtless numerous mistakes and agnososes have given rise to this idea. Inas-

much as the deformity has been considered due to rickets, instead of to the exostoses and their associated cartilaginous and bony defects. No direct connection between the two diseases has ever been demonstrated positively. Histological examination shows that the arrangement of the cartilage cells in growing exostoses is different from their arrangement in rickets. In some of these cases a small and barely palpable thyroid has been found in other cases there has been lack of development of the sexual function.

Multiple cartilaginous exostoses are as a rule a harmless affection the disturbances in the wrist and elbow joints being the most bothersome. A few exostoses may on account of their location become very burdensome but are rarely dangerous. Those exostoses which lock the joints may be removed. Neuralgia, paralysis, epilepsy, apoplexy, defective hearing, dystocia in labor and rupture of the uterus, exophthalmos, rupture of the popliteal artery with aneurism formation and also malignant degeneration have been described.

In view of these severe even if infrequent complications, and the considerable and not infrequent deformities occurring in this disease the undesirability of the intermarriage of members of exostosis families in the light of Mendel's law should be recognized by physicians and eugenisists.

Fay O. J.: Traumatic Periosteal Bone and Callus Formation. The So-Called Traumatic Ossifying Myositis. *The Western Surg. Ass. St. Louis, 913 Dec.* By Surg. Gynec. & Obst.

Fay reports six cases of traumatic intramuscular ossification and reviews the literature on the subject. In four of his cases the brachialis anticus was the muscle involved in two the vastus medius. In two cases, the ossification followed a dislocation of the elbow in three other cases, a contusion was the determining factor while in the remaining one there had probably been a rupture of the muscle. The youngest patient was 16 the oldest 50.

None of the four theories advanced to explain the pathogenesis of these intramuscular bone formations (the hæmic theory, the theory of aberrant sesamoid bones, the theory of periosteal detachment or dissemination or the theory of ossifying myositis) is entirely satisfactory. The first two have found but few supporters the third does not explain muscle ossification in muscles not overlying the bone while the fourth in so far as it assumes a hæmatogenous infection lacks clinical evidence. Histologically the bone mass is found to bear a close resemblance to the callus of fractures the whole picture is that of a reparative process, the damaged connective-tissue cells having temporarily lost their differential function and become osteogenetic. Since the term myositis ossificans traumatica emphasizes the inflammatory rather than the reparative nature of the ossification the author prefers the appellation parosteal callus.

The early symptoms are those of any contusion.

but the functional does not keep pace with the objective improvement and an indurated mass becomes palpable. While the clinical picture and the history of trauma may suggest the presence of a parosteal callus, the radiograph is essential to differential diagnosis.

Operation is indicated where there is functional disability or where the parosteal callus interferes with the blood or nerve supply. The prognosis is good unless there is periarthral ossification. Early operation must be radical and all damaged tissue must be removed to guard against a recurrence but better functional results are obtained if the callus is allowed to ripen. A conservative operation is then possible and the maximum amount of muscle tissue is saved.

Möller B: Etiology of Bone and Joint Tuberculosis (Zur Ätiologie der Knochen- und Gelenktuberkulose) *Deutsche med. Wochenschr.* 19, 1826
By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

While 99 per cent of all pulmonary tuberculosis is caused by the human tubercle bacillus and only 1 per cent by the bovine type in bone and joint tuberculosis the bovine bacillus appears in 24.5 per cent of the cases. The author bases his conclusions on 12 cases of his own and 163 cases from the literature and differs from the conclusion of John Fraser of Edinburgh who in 70 cases of children under 5 years of age found the bovine bacillus in 72.7 per cent and the human in 27.27 per cent which he attributes to the exclusive milk nourishment in early childhood and the slight resistance of the mesenteric lymph glands. These figures differ from those of all other authors. **Russ**

Rollier A: Sunshine Treatment of Bone and Joint Tuberculosis (Über die Sonnenbehandlung der Knochen- und Gelenktuberkulose) *Ztschr. f. orthop. Chir.* 19, 3, 337

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Rollier acromioclavicular has patients gradually to complete exposure to light and the sun's rays for a period of ten to twelve days beginning always with exposure of the lower limbs and protecting the head, eyes and heart. During this time there is a total irradiation of 4 to 8 hours divided into 6 to 8 periods. Joint tuberculosis is treated principally. The first step is to remove every sort of immobilizing bandage or apparatus. The patient should have a hard bed with a single hard smooth flat mattress over this the sheet should be drawn smoothly and fastened at the four corners. There should be a sand pillow and an air cushion under the pelvis. A tight fitting cloth jacket that can be unbuttoned is worn on the body. The treatment of the individual joints can easily be understood from the original as it is profusely illustrated and follows the general principles of surgical extension treatment allowing the greatest possible freedom for the action of the sun's rays the abdominal position is preferred.

The results of the treatment which is carried on

for two or more years are surprising there is improvement in the general health cessation of suppuration healing of fistulas and abscesses and restoration of the joints to normal condition anatomically as well as functionally. Where complete sunlight treatment cannot be carried out, Rollier uses deep irradiation with Röntgen rays by Iselin's method avoiding overdosage. Surgical procedures are reduced to a minimum and tuberculin treatment is not used. **MAYESSICH**

Tuffier: Osteo Articular Grafts (Sur les greffes ostéo-articulaires) *B. H. et mém. Soc. de chir. de Par.* 1913
xxxix 1139 By Journal de Chirurgie

TUFFIER reported a case of transplantation of bone and cartilage by Duval. The patient a woman of 21 had an irreducible luxation of the right shoulder. He resected the head of the humerus and substituted the head of the first metatarsal from another patient. At the end of six weeks the patient could lift her hand to her mouth and with some effort to her head. In connection with this case he studied the ultimate fate of osteo-articular grafts in another patient. He showed X-ray pictures, taken every 6 months of a young man in whom he had resected the elbow and substituted the tibio-tarsal joint of a woman. They showed that the internal malleolus had gradually been absorbed, but the remainder of the tibia had assumed its function. They did not show what part of the new joint was formed by new and what by old bone but it could be seen that some pathological process was taking place. The bone on which the graft had been made had been affected with suppurative osteitis for 2 years.

MURPHY says that grafts are absorbed in time and replaced by new bony tissue originating from the old bone. But **Rehn** says the graft at first undergoes cellular degeneration followed by regeneration of its own substance. However as the grafted joint permits of normal and useful movements its efficacy cannot be disputed.

MORESTIN is sceptical as to the results of the transplantation practiced by Duval. He says the functional result obtained cannot be attributed to a small osteo-cartilaginous fragment, but that resection pure and simple would have accomplished the same result. He thinks that many so-called irreducible luxations could be replaced and that even resection is too readily resorted to.

DELBERG says that the expression "articular graft" used by Tuffier causes confusion because it would lead one to suppose a whole joint was being transplanted when as a matter of fact, only small osteo-cartilaginous grafts are being made.

Successful transplantation of a whole joint has been performed only once by **LEAVER**. He does not believe much in the utility of small grafts. He believes however that bone grafts very well. He reported a case in which a graft from the fibula lived and fulfilled its physiological function which he considers the important point.

MAUCLAIRE gives the results which he has obtained with osseous grafts for various lesions of the bones without drawing any conclusions as to the efficacy of the procedure in general. He reports

1. Two cases of grafts to repair defects in the diaphysis of long bones resulting from the removal of osteo-sarcoma with recurrence in both cases

2. In intramedullary grafts for fractures of the diaphysis employed in a case of fracture of the humerus he transplanted a fragment of the patient's fibula into the medullary cavity leaving it covered with periosteum. After 18 months there was no pain or disturbance in the function of the arm. During the past year he treated six cases of fracture of the tibia with intramedullary grafts from the fibula. Four times he had to remove the grafts because of hematoma which is produced very easily in the marrow by inserting the graft. Once the operation was well borne but he has not seen the patient since. In the other case radiography shows the fragment of the fibula in the medullary cavity maintaining the contact of the fragments. The patient walks well. In none of the cases was there any disturbance of function in the leg from which the fibula was removed.

In cases of pseudarthrosis grafts from the fibula are of great service of which method Pierre Delbet and Murphy have reported successful cases.

Murphy had a case of depressed fracture of the brain with a large number of irregular fragments which were removed. Six months later a very large encephalocele occurred. He applied a fragment of fascia lata with muscle attached to the brain the muscle lying next to the surface of the brain to prevent post-operative adhesions. Over this he placed a fragment from the inferior angle of the patient's own scapula but it did not entirely fill the defect and was movable and four months later the lower half of it had to be removed on account of necrosis. As the encephalocele is insignificant in size and the patient is able to work the operation may be regarded as successful in spite of the unfavorable conditions.

In another case Murphy treated a similar fracture in a child of 9 years with complete success although the graft did not entirely fill the defect. The successful result was probably due to the youth of the patient.

3. In graft to replace a bony fragment removed on account of osteitis the fourth metacarpal was removed for chronic tubercular osteitis and replaced by a fragment from the fibula but as the operation was performed in June 1913 it is too early to know the result.

4. In partial graft of the joint for ankylosis of the elbow the elbow was resected and cartilage transplanted from the tibia and astragalus of an amputated leg. There was a recurrence of ankylosis but radiography shows that the grafted cartilage is living and well fused with the humerus.

J. DUNN

Niosi F. Hemophilic Joint Disease (Les arthropathies hémophiliques). *Clin. chir.* 19 3 xii 1707
By Journal de Chirurgie

Niosi reports two cases of hemophilic joint disease observed in children in the surgical clinic of Ceci at Pisa.

The first patient a boy of six had been sent in with a diagnosis of white swelling of the knee. The knee was very much swollen flexed at an angle of 145 degrees on the thigh slightly painful on pressure at the level of the internal condyle and there was ballottement of the patella. Active motion was impossible passive motion limited but there was no appreciable muscular atrophy.

Attention was attracted by the peculiar course of the so-called white swelling, and a history of hemophilia was elicited in the patient and one of his parents. Several times he had had severe hemorrhages from insignificant superficial wounds the least blow caused ecchymoses and even true hematomata several times nose-bleed had been so severe as to require tamponing of the nasal fossae. The lesion of the knee had followed suddenly after a slight twisting of the joint. The diagnosis was based on these facts.

The only treatment possible was to immobilize the limb and exercise continuous traction on it by means of weights. An apparent cure was effected but two months later there was a recurrence without any apparent cause. The treatment was begun again and resulted in a complete cure.

The second case was a child of eight brother of the preceding one. He had an affection of the elbow which had some resemblance to white swelling. But he was also evidently a hemophilic and had had several similar attacks in the ankle and the finger joints. The affection of elbow was cured after rest. In connection with these two cases Niosi reviews the question of hemophilic joint diseases.

Pierre Fredet

Brehm O. The Origin of Joint Mouse (Zur Kasuistik der Gelenkmäuse). *Deutsche Zeitsch. f. Ch.* 9 3
ix 8

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

The author has had two cases of joint mouse which were typical examples of the two chief clinical types. In the first case there were two very large completely calcified bodies one of them larger than a patella with a convoluted surface similar to that of the brain. They were found in the knee-joint of a 56-year-old man. The joint had undergone marked inflammatory changes and contrary to the usual rule the symptoms caused by the joint mouse were the predominant ones and demanded extirpation. In the other case there were solitary but recurring small round flat bodies in a practically normal joint with the characteristic joint mouse symptoms. The author agrees with Axhausen's opinion that these movable bodies originate from aseptic cartilage or bone necrosis with a resulting local arthritis as a consequence either of traumatic subchondral hem-

orrhage (Lezer) embolism (König jun Müller) or inflammatory processes

The great majority of joint mice are of inflammatory origin a smaller number of traumatic origin. This anatomic-pathological distinction has no practical value for the question of extirpation depends on whether or not the symptoms caused by the tophi are the predominant ones. In solitary bodies in almost normal joints this is generally the case. In arthritic joints with several tophi it is generally not true. Cases of the latter group, therefore do not generally require operation. **SIXTENS**

Von Manteuffel: Experimentel Arthritis Deformans (Über experimentelle Arthritis deformans). *Deutsche Zeitschrift für Chirurgie* 1913, 94, 331.
By Zentralblatt für Chirurgie in Crenagbe

The author gives a detailed report of experiments which he carried out to produce changes in the skeleton by artificial freezing and congestion. Rudnicki in similar experiments on the soft parts, found artificial sclerosis of the vessels and the tissue changes dependent on it. Von Manteuffel produced the changes in the articular ends of the bones that are characteristic of arthritis deformans.

The freezing was produced by directing a spray of ether against the shaved hind leg of a guinea pig for 3 to 7 minutes and the congestion by tying a rubber tube around the thigh for 13 to 47 hours. Similar changes were produced by both methods but to a more pronounced degree by the freezing. The cells of the joint cartilages stained irregularly and there was a dulling of the surface there were hemorrhages in the region of the joint and a contraction of the cartilage with secondary proliferation in the cells of the capsule of the cartilage one or more medullary spaces approached the capsule and consumed it and finally there was a complete disappearance of the cartilage and of the entire joint, with connective tissue ankylosis of the two bones.

The author observed changes in the joint capsule similar to those in the cartilage. The vessels showed swelling and then proliferation of the intima cells until finally the whole lumen of the vessel was closed. He could not determine an etiological relationship between these changes in the vessel and those in the bones and cartilages. He comes to a different conclusion than Rudnicki's as to the soft parts but he believes he has demonstrated that the changes caused in the joints by cold and congestion may be regarded as an artificially produced arthritis deformans. **K OKE**

Beck, E. G. Treatment of Tuberculous Hip-Joint Disease with Caseating Sinus, by Means of Bismuth Paste. Report of 102 Cases. *Western Surg. Ass. St. Louis*, 1913, Dec.
By Surg. Gynec. & Obst.

The author relates his experience in treating 102 cases of tuberculous hip joint disease during the past eight years, most of the cases being at the lowest stage riddled with a purulent sinus. His experi-

ence has taught him new points in the treatment of these cases not only from the therapeutic standpoint but also from the diagnostic and preventive standpoint. He cites many interesting cases and demonstrates the following points:

1. It has been found that hip-joint disease in its incipient stage is too frequently diagnosed as rheumatism. Two-thirds of his cases gave the history of having been treated in the beginning for rheumatism or sciatica.

2. It has further been noted that when the disease had progressed to the stage of abscess formation incision and drainage had been employed as a rule a method which is now of course generally condemned.

3. It has also been noted that sacral tuberculosis or that of the sacro-iliac joint is frequently taken for hip-joint disease the author having met with five such cases. The reason for this mistake is explained by the similarity of the swelling and contracture of the limb on the affected side which is also found in hip-joint cases. The radiogram is the deciding factor in such cases. This had been employed previous to the examinations noted, in only two out of the five cases and the pictures taken were not sufficiently clear to make interpretation possible.

4. Another rather rare complication occurred in four cases namely the hip-joint disease produced a rectal fistula. These belong of course to the most severe type of joint destruction in which the abscess has spread along the path of the fascia usually through the notch below the anterior superior spine then along the pelvic fascia toward the pararectal tissues, and there either opened into the rectum or around the anal opening.

5. The acetabulum is affected in the majority of hip-joint cases. Rarely does it break through into the pelvis and allow the abscess to find its way into the pelvis, the author having but one such case on record. The iliac bone is affected in about 5 per cent of the cases.

Kirmisson: Malformation of the Tibio-Tarsal Joint. Known in Germany as Volkmann's Deformity (La malformation de l'articulation tibio-tarsienne connue en Allemagne sous le nom de déformation d'Volkman). *Rev. d'orthop.* 913 N. 5, 1913.

What is called in Germany Volkmann's deformity is not as the surgeon of Italy thought a congenital luxation of the joint between the tibia and the tarsus. It is, as Kirmisson has shown, and as Kirmisson has proved anew, a malformation characterized by an abnormal obliquity of the line of articulation between the tibia and tarsus, due to an arrest of development in one of the bones of the leg either the tibia or the fibula. These bones are not absent congenitally but they are imperfectly developed.

In the great majority of cases it is the lower end of the fibula that is arrested in development therefore the line of articulation is oblique from below

upward and from within outward. The foot presents talipes equino-valgus Volkmann's is a typical case.

In rare cases the deviation is in the form equinovarus as in Burckhardt's and Kirmisson's cases. It is best not to be hasty in treatment in this as in most cases of congenital malformation of bones for there is danger of recurrence.

During the first few years of life an apparatus may be worn which will enable the child to walk and prevent the progress of the deformity but this treatment is only palliative.

The surgical procedure of choice is tibiotarsal ankylosis Tenotomy though overcoming the equine deformity requires the wearing of an apparatus to maintain it. Wedge shaped osteotomy of the most completely developed bone corrects the malformation but it does not assure the persistence of this correction because the obliquity of the line of articulation persists and tends to reproduce the deformity.

Ankylosis gets at the cause of the deformity modifies the direction of the line of articulation and brings about definite correction of the deviation of the foot. It should be extensive enough to be completely curative. Kirmisson thinks that it should not be performed until the tenth year.

ALBERT MOLCHERT

SURGERY OF THE BONES JOINTS ETC

Quénu F and Gattellier J: Treatment of Old Fractures of the Patella (Revue sur le traitement des fractures anciennes de la rotule) *Rev de chir* 1913 xix, 173 By Journal de Chirurgie

Old cases are in all respects worse subjects for operation than recent ones. They are rare however, as fracture of the patella is now universally treated by early operation. Results justify this treatment there is not more than one death in 500 cases operated on recurrence of fracture is much rarer and restoration of function is rapid and perfect. Old fractures, therefore are generally those where there has been some contra indication to immediate open operation.

The author defines old fractures as those of from six weeks to two months duration. In these there is generally pseudarthrosis and no osseous callus the upper fragment rises to the subcondylar region and adheres there, the lower fragment moves toward the tibia, and both become encapsulated with fibrous tissue. There is retraction of the surrounding fibrous tissue arthrosynovitis and atrophy of the quadriceps.

The patient finds walking painful, he cannot walk on an inclined plane and on uneven ground he frequently falls. These conditions cause sprains, hyperarthrosis from blows and repetition of the fracture on the same or the opposite side. Operation becomes necessary, but is difficult on account of the separation of the fragments. It may consist of osteosynthesis autoplatic operation or even of

extirpation of the patella. The methods of several different authors for each are described in the article. Lucas Champonnière reinforces the fibrous callus with metal wires which form a hinge. Chaput has performed subperiosteal resection of the upper fragment.

Since 1893 the results have been excellent in 80 per cent of cases good in 17 per cent with death or failure in 3 per cent. The simplest procedure should be tried first—traction on the patellar tendon or V-shaped incisions. The mobilization of the tuberosity of the tibia may be necessary to secure coaptation. In case of failure of osteosynthesis it is necessary to perform an autoplatic operation and Quénu and Gattellier prefer Ferraresi's method of utilizing the quadriceps. J OBERG.

Petroff N N Transplantation of Bone (Die freie Knochentransplantation) St. Petersburg Ettinger 1913 By Zentralbl f d ges. Chir u Grenzgeb

This monograph is divided into an experimental and a clinical part. In the first part the author gives a short review of the literature of the question (Ollier, Barth, Marchand, Axhausen, Frangenheim). From these works and his own earlier work he concludes that the fact of the regeneration of bone after transplantation is confirmed. The topographical distribution of the new layers of bone has even been made out but the question of the origin of this new bone is not settled.

The first law in bone transplantation is that living bone of the same species or better still of the same individual must be used. The author cites his own experiments to illustrate the difference in the practical results obtained by transplantation of bone with and without periosteum and in autoplatic and homoplatic transplantation. In 12 rabbits 2 to 3 cm of the diaphysis of the radius or ulna were resected and the defect was filled in 7 cases by homoplatic transplantation in 5 cases by autoplatic.

In the homoplatic transplantations periosteum alone was used—a piece of rib covered with periosteum and a rib without periosteum. The bone without periosteum was quickly absorbed. In the autoplatic transplantations the same principles were carried out. The bone without periosteum lived and thrived almost as well as that with periosteum.

The author gives further experiments in repairing skull injuries. In 7 cases, dogs and rabbits the defects in the skull were covered by the autoplatic transplantation of pieces of rib which they lived in closed the aperture firmly. The bone forms the capacity of the dura mater is very slight. If defect were not covered, and after six weeks there was a thin plate of bone in both rabbits. If defects were covered with decalcified bone with heated bone and fire with cellulose. Repair can be effected by any of these methods. The general rules for bone transplantation are discussed. The individual's own bone is used.

orrhage (Lexer) embolism (König jun Müller) or inflammatory processes

The great majority of joint-mice are of inflammatory origin a smaller number of traumatic origin. This anatomic-pathological distinction has no practical value, for the question of extirpation depends on whether or not the symptoms caused by the tophi are the predominant ones. In solitary bodies in almost normal joints this is generally the case in arthritic joints with several tophi it is generally not true. Cases of the latter group therefore, do not generally require operation. **SZEVAS**

Von Manteuffel Experimental Arthritis Deformans (Über experimentelle Arthritis deformans) *Deutsche Zeitschr f Chir* 93 335 337
By Zentralbl f d ges Chir 31, 1 Grenzgeb

The author gives a detailed report of experiments which he carried out to produce changes in the skeleton by artificial freezing and congestion. Rudnicki in similar experiments on the soft parts found artificial sclerosis of the vessels and the tissue changes dependent on it. Von Manteuffel produced the changes in the articular ends of the bones that are characteristic of arthritis deformans.

The freezing was produced by directing a spray of ether against the shaved hind leg of a guinea pig for 3 to 7 minutes and the congestion by tying a rubber tube around the thigh for 13 to 47 hours. Similar changes were produced by both methods but to a more pronounced degree by the freezing. The cells of the joint cartilages stained irregularly and there was a dulling of the surface there were hemorrhages in the region of the joint and a contraction of the cartilage with secondary proliferation in the cells of the capsule of the cartilage one or more medullary spaces approached the capsule and consumed it and finally there was a complete disappearance of the cartilage and of the entire joint with connective-tissue ankylosis of the two bones.

The author observed changes in the joint capsule similar to those in the cartilage. The vessels showed swelling and then proliferation of the intima cells, until finally the whole lumen of the vessel was closed. He could not determine an etiological relationship between these changes in the vessel and those in the bones and cartilages. He comes to a different conclusion than Rudnicki's as to the soft parts but he believes he has demonstrated that the changes caused in the joints by cold and congestion may be regarded as an artificially produced arthritis deformans. **KNOKE**

Beck E. G.: Treatment of Tuberculous Hip-Joint Disease with Coexisting S. aure. by Means of Bismuth Paste; Report of 102 Cases. *Tr Western Surg Ass* St. Louis, 9 3 Dec
By Surg Gynec & Obst

The author relates his experience in treating 102 cases of tuberculous hip joint disease during the past eight years, most of the cases being at the lowest stage riddled with suppurative sinuses. His experi-

ence has taught him new points in the treatment of these cases not only from the therapeutic standpoint but also from the diagnostic and preventive standpoint. He cites many interesting cases and demonstrates the following points:

1. It has been found that hip-joint disease in its incipient stage is too frequently diagnosed as rheumatism. Two-thirds of his cases gave the history of having been treated in the beginning for rheumatism or sciatica.

2. It has further been noted that when the disease had progressed to the stage of abscess formation, incision and drainage had been employed as a rule a method which is now of course generally condemned.

3. It has also been noted that sacral tuberculosis, or that of the sacro-iliac joint is frequently taken for hip-joint disease the author having met with five such cases. The reason for this mistake is explained by the similarity of the swelling and contracture of the limb on the affected side, which is also found in hip joint cases. The radiogram is the deciding factor in such cases. This aid had been employed, previous to the examinations noted in only two out of the five cases, and the pictures taken were not sufficiently clear to make interpretation possible.

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Kirrmisson Malformation of the Tibio-Tarsal Joint Known in Germany as Volkmann's Deformity (La malformation de l'articulation tibio-tarsienne connue en Allemagne sous le nom de déformation de Volkmann) *Rev d'orthop* 19 3 No 5, 385

What is called in Germany Volkmann's deformity is not as the surgeon of Halle thought, a congenital luxation of the joint between the tibia and the tarsus. It is as Bidder has shown, and as Kirrmisson has proved anew a malformation characterized by an abnormal obliquity of the line of articulation between the tibia and tarsus, due to an arrest of development in one of the bones of the leg, either the tibia or the fibula. These bones are not absent congenitally but they are imperfectly developed.

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anchorage is obtained by drawing the tendon through a one sixteenth inch drill hole in the bone the free end of the tendon is then passed through a slit in the standing part of the tendon and is then itself split and the ends brought around the standing part and fastened with several interrupted fine silk sutures thus firmly anchoring the tendon to the bone.

When transplantation is not feasible on account of extensive paralysis the foot can be made useful by permanently checking the foot-drop. Arthrodesis should not be done however in children under 14 years of age silk ligament suspension is considered more satisfactory. The author uses bichloride braided-silk size 12 to 16. It is passed through a drill hole bored in the base of the first metatarsal bone from there it is passed within the tendon sheath of the tibialis anticus under the annular ligament to a point 2 or 3 inches above the ankle joint, emerging through a tibial incision. A similar procedure on the outer side of the foot is carried out anchoring the distal end of the silk to the base of the fifth metatarsal and carrying it upward within the sheath of the peroneus tertius emerging through the tibial incision a drill hole is bored through the crest of the tibia and the two silk ligaments secured with the foot held in the proper position. Pes calcaneus may be benefited by lengthening the semitendinosus with heavy silk which is inserted into the os calcis.

Nerve grafting after the method of Spitzay has not met with success in the hands of the author.

ROBERT B. COLEMAN

Little E. M.: The Treatment of Spastic Paraplegia: Little's Disease. *Bull. M. J.* 9: 13. By Surg. Gynec. & Obst.

In considering the treatment of spastic paraplegia under pathology the author quotes Kuttner as saying: "The subcortical centers are continually purred but not bridled. He favors early treatment. As a general outline of treatment he advises measures to aid putting the patients on their feet—tenotomies, tenoplasties, manipulations, myotomies, etc. the main thing to attain being the abduction of the limbs and training. Much depends on the mentality of the patient. These measures failing he advises neurotomy complete as advised by Lorenz though no longer favoring it partial neurotomy according to Stoppel or alcohol injection as advised by Allison. He makes a plea for Foerster's operation for the severe cases. He sees no need to do this in two stages. He mentions a case of his own which though not ready to be reported is doing well."

M. S. HENDERSON

Sharpe W. and Farr H. B. F.: A New Operative Treatment for Spastic Paralysis: A Preliminary Report. *J. Am. M. A.* 1913, 10: 43. By Surg. Gynec. & Obst.

The authors present a preliminary report of a new method of treatment in spastic paralysis based on a

series of twelve cases. Spastic paralysis frequently results from a lesion of the brain occurring prior to or during or shortly after birth. It is characterized by more or less complete paralysis of the part affected associated with stiffness or spasticity depending upon the involvement of the pyramidal tracts. Athetoid movements of the extremities and Jacksonian epileptiform attacks may frequently be observed. The paralysis and contractures increase as the child grows older and usually there is a progressive mental impairment. The most common lesion is that of intracranial hemorrhage causing cortical clot over the cerebrum and the resulting pathological changes. This type forms about 70 per cent of all cases.

The remaining 30 per cent are due to agenesis and malformations of the cerebral cortex to cases of meningo-encephalitis complicating the acute infectious diseases.

In those cases of spastic paralysis in which the clinical history suggests a cortical lesion and in which there is present an increased intracranial pressure as shown by the ophthalmoscope a right subtemporal decompression operation is performed. If the pressure is not sufficiently relieved by this first operation a second or left subtemporal decompression is done within a month. This operation is performed to offset the effects of the pressure caused by the cerebral lesion—usually hemorrhage with cystic formation. The pathological lesions present are dealt with at the same time or later depending upon indications.

The result of this treatment has been a lessening of the spasticity and a definite amelioration of the patient's mental condition. The after treatment consists in overcoming the deformity according to orthopedic principles. Two cases are reported in detail.

One of the most important advantages of this method is the improvement of the patient's mental condition to such a degree that the co-operation of the patient is obtained in carrying out the after treatment. Sufficient time however has not elapsed to make any definite assertion as to permanency of results.

This procedure is of value only in those cases of spastic paralysis that show signs of increase in intracranial pressure. Cases of agenesis and malformation do not show increased pressure and are therefore easily excluded by thorough and careful examination. A more complete report will be published later by the authors. A. C. BACAN

Rich F. A.: Limitations of Lang's Silk Ligaments in Paralytic Surgery and Substitutes Therefor. *J. Am. M. A.* 1913, 10: 597. By Surg. Gynec. & Obst.

The author reports his personal experiences with silk ligaments in fifty-eight selected cases. He does not use them below the knee because irritation produced by their lacings necessitates the removal of

the best material Homoplastic transplantation should be done only when this is not available and in the latter case bone covered with periosteum should be used Transplantation of bone from the corpse (Küttner) should only be used in exceptional cases The transplanted bone must be closely applied to the soft parts fixation of the bone is best secured by wedges of bone In regard to osteoplastic operations on the skull the author thinks, as a general rule openings in the skull should be closed in fresh traumatic injuries of the skull the primary reimplantation of the injured bone is to be recommended Seventy three cases of this kind are known (Streda Bunge Brewitt, Frank, Schaack)

In secondary operations, Müller König's method or some of its modifications should be used (Häcker Durante Leotta) and the aperture may be closed with pieces of tibia (Seydel) or of rib (Loebnhofer)

The article also discusses plastic operations on the lower jaw bones of the face nose spinal column and clavicle For the lower jaw parts of the jaw itself may be used or pieces of rib or tibia Successful cases are known with all these methods In this case transplantations from the clavicle and rib with pedicles may also be made use of Bone transplantation is of service in rhinoplasty but the Russian material on this subject has been treated in a monograph by Pawloff Suilwanaki Attempts at osteoplastic operations on the spine have been made by Nibbs in kyphosis and by de Quervain in dislocation of a vertebra. SCHAECK.

Polfenoff A: Plates and Nails in Bone Surgery (Klammer und Nagel in der Knochenchirurgie)
A b s d Congr Kretenk Sumbark 193 No 3 6
By Zentralbl f d ges Chir u L Greengab

The author recommends in all cases of fracture where ideal coaptation of the ends cannot be obtained by immobilization and extension the employment of open replacement and fixation by plates or nails which can afterwards be removed and so leave no disturbing foreign body He has modified Lambott's plates in such a way that there are two nails instead of one at each end and they are perpendicular to the long axis of the plates so that a lateral displacement of the fragments is impossible In thin long bones where a displacement in the direction of the axis might occur he prevents it by twisting a wire around the end of the fragment and knotting it over the plate The wire is afterwards removed together with the plate under which the edges of the wound are united by sutures decubitus is not necessary The author has successfully used plates and nails in the replacement of pieces of bone with the muscles attached to them He describes 12 cases of fractures and ankylosis of joints in one case he used Steinmann's method of extension with nails HINZ

Harris C H Arthroplasty T St J Med 93
15 23 By Surg Gynec & Obst

Arthroplasty may be primary following fresh articular fracture or secondary to replace old,

neglected fragments, or to correct ankylosed joints Previous to the development of the muscle and fascia flaps—technique first used about 1865—correction of ankylosis consisted in chiseling through the joint followed by passive and active motion The results were poor Murphy was the first to use pedunculated fascia flaps, but Behn has shown that the pedicle is not necessary

Arthroplasty is indicated in ankylosis as a result of arthritis fibrous ankylosis, and unreduced fractures and dislocations that have resisted conservative treatment and in cases where resection is demanded because of disease It is contra indicated in cases before the union of the epiphysis in the diaphysis in old age immediately after severe fractures during active pathologic lesions in cases of extreme atrophy of the muscles concerned with the joint and where there is no subcutaneous fatty tissue The author reports four of his cases with good results. W C CLARK.

Ryerson E W The Surgery of Infantile Paralysis
els. J Am N Ass 19 3 15, 16 4
By Surg Gynec & Obst.

The paper deals with the treatment of paralysis of the legs and trunk, and the author calls attention to the fact that the prevention of deformities during the two years following the onset of the paralysis, the period of spontaneous repair deserves a great deal of attention Precautionary measures such as the use of splints and retentive apparatus massage, and galvanic electricity are found efficacious

The correction of the late deformity must precede or accompany the operation for retaining the part in the proper position This may include manipulation, forcible redressment or operations on the tendons and bones The author prefers the open lengthening of the Achilles tendon to the subcutaneous tenotomy as too great lengthening may occur in the latter

The principal problem is to retain permanently the correction attained and this result is brought about most satisfactorily by tendon transplantation or by silk ligament suspension

The Vulpian method the transplantation of the entire healthy tendon or a portion of it, into the tendon or muscle which it is intended to strengthen, has been found of value by Ryerson in only a limited field It may be used in the arm or forearm or in supplying power to the flexors or extensors of the toes where there is no great amount of strain

The peroneal implantation of Lange gave more satisfaction but was not strong enough: cases of drop foot In one case two years after operation, there was found a lengthening of one and one-half inches due to a gradual stretching of the peroneal attachment

Codravilla's method of nailing the tendons to the bones is not considered so reliable as the direct suture with silk

When sufficient muscles remain to justify transplantation the author believes that the best

usually associated with some other malposition of the foot such as varus valgus equinus or calcaneus.

As to its etiology he states that so called true or essential cavus is rare that cavus is practically always of neurogenic origin resulting from lesions of polymyositis of the cerebral cortex of toxic neuritis, the dystrophies. It also results from mechanical causes as from a shortened limb and from the disturbances of muscles as in the interosseal muscles from short shoes also from primary myositis of the tibialis anticus.

He then goes into the mechanism of cavus and states that the normal arch is maintained by the shape and arrangement of the bones the muscles fascia, and ligaments and that the rigidity of the bones maintains the general form of the foot in paralysis of the muscles but that the ligaments and fascia only imperfectly perform their functions and that disturbances of the function of muscle are responsible for the development of most deformities.

He states that the muscles of the sole including the long flexors of the toes increase concavity of the arch while those on the dorsum decrease it that the tendo Achilles is the strongest extensor while the tibialis anticus is the opponent that the extensors and flexors of the toes act only indirectly on the arch but that this indirect action is of the utmost importance in controlling the stability of the arch and that this interrelation of the flexors and extensors of the toes is so fundamentally important in preserving the normal condition of the arch that if paralytic calcaneus and possibly, congenital types are left out of consideration he believes it safe to say that a perversion of the normal reciprocal action between the flexors and extensors of the toes can account for most if not all of the remaining types of cavus.

He explains this interrelation as follows. In rest with the normal foot the balance is perfect with the toes neither in flexion nor extension. Active flexion or extension of the toes affects the flexible arch dorsal extension increases the concavity while plantar flexion decreases it. Normally the change takes place by both muscle and bony adjustment. The centers of rotation of the metatarsophalangeal articulations are near the centers of the heads of the metatarsal bones and the tendons pass over these centers to their attachments to the phalanges and

maintain the arch in its normal position when the toes are straight ahead but when the toes are extended then the flexor tendons on the under side must be stretched in order to allow the toes to take the new position or the span of the arch must be diminished. The tendon does not stretch but the muscle may relax—normally both take place.

Two sets of flexors the short flexors in the sole and the long flexors passing behind the ankle are concerned in this action motion at the ankle somewhat affects the function of the latter. Extension of the foot slightly relaxes the long flexors and tends to weaken their effect in the interaction but this is slight as they pass so near their axis of rotation at the ankle that flexion or extension of the ankle makes very little difference in their ultimate action.

On the other hand the dorsal extensors of the toe pass a greater distance in front of the axis of motion at the ankle and are markedly increased in their capacity to extend the toe by strong extension of the foot and thus gain definite power over the flexors that easily maintained their balance in the normal or resting position of the foot. Similarly the author shows the mechanism in decreasing the concavity of the arch.

In health the various changes are physiological and the normal resting place is readily resumed but under pathological conditions the position cannot be assumed or if assumed cannot be maintained. The disturbed action of the flexors and extensors is usually secondary in nature the real affection being in the synergic muscles the originally affected muscles primarily destroying the balance of the foot and the physiological action of the flexors and extensors under changed conditions producing the deformities.

He then shows how paralysis of the tibialis anticus with resultant foot-drop and the accompanying overtension of the toes produce an increase of the concavity of the arch.

Under treatment he states that simple measures commonly suffice to restore balance in the initial stages while in the fixed deformity great force frequently accompanied by resection of bones and section of the soft tissues is often necessary to restore in a measure the normal condition of the foot.

J O WALLACE

SURGERY OF THE SPINAL COLUMN AND CORD

Golant A J. Ankylosis of the Spinal Column
(Über die U beweglichkeit d Wirbelsäule) D
art hies St Petersburg 93
By Zentralbl f d ges. Chir u Grenzgeb

After a critical review of the literature of the subject the author gives very detailed case histories of 9 cases of ankylosis of the spinal column from Bechterew's Clinic and an exhaustive description of the symptomatology and diagnosis of the disease. Two of the cases died and he had an opportunity

to make a careful macroscopic and microscopic examination of the spinal column and the central nervous system in his report he adds a description of fourteen museum preparations. In order to determine the changes which take place in the intervertebral cartilages as a result of age he made a microscopic examination of the spinal columns of 9 individuals from 1 to 80 years of age. He sums up the results of his investigations as follows:

1. With advancing years changes take place in

the silk. In the shoulder and elbow he has used them with gratifying success.

He then describes a capsule tucking operation which he does to limit the mobility of paralyzed joints. Taking as an example an equinus deformity he makes elliptical skin incisions transversely across the ankle joint, retracts the tendons and splits the ankle-joint midway between its attachment to tibia and astragalus with a full horizontal incision; the two lips of the capsule are seized with hemostats and are overlapped sufficiently to correct the drop and mattress sutured with very heavy chromicized catgut. As a result heavy scar tissues form about the site of the sutures. In addition he shortens tendons, overlaps fascia, and brings the skin together — minus the skin flaps removed — between the original incisions.

He sums up by saying that silk is a foreign body and its use is not justifiable around the ankle-joint.

J O WALLACE

Singley J D: *The Operative Treatment of Hallux Valgus and Bunion*. *J Am M A* 913 121, 1871. By Surg. Gynec & Obst.

The author describes a modification of Fowler's operation for hallux valgus. He makes the incision along the outer side of the metatarsal head close to the bone, dissecting all the tissues from the dorsal to the plantar surface and dividing the external lateral ligament so that the great toe may be dislocated inward and reversed exposing the metatarsal and phalangeal surfaces of the joint directly before the operator. Both the metatarsal and the phalangeal surfaces are reshaped with a narrow jig saw the former being convex and the latter concave from before backward so as to prevent lateral displacement. Then the metatarsal end is covered with a flap of fatty fibrous tissue, dissected from the tissues covering the intermetatarsal space and sutured in place.

The tendon of the extensor proprius hallucis is divided and the toe returned to place and sutured the capsule being sutured first, then the overlying tissues then the skin incision. Drainage with a few strands of catgut is advised. The foot is protected afterward by a cigar box splint or a splint along the inner side of the foot of plaster of Paris to which the toe is bandaged. The advantages claimed for the operation are mobility of the joint and absence of liability to recurrence.

J L. PORTER.

ORTHOPEDICS IN GENERAL

Ogilvy C. *Recent Progress in Orthopedic Surgery*. *N Y M J* 93 2204, 997. By Surg. Gynec & Obst.

Ogilvy reviews briefly but interestingly the progress that has been made in the past decade in anterior poliomyelitis, congenital dislocation of the hip, operative treatment of Pott's disease, mobilization of ankylosed joints and rotary lateral curva-

ture. His conclusions in regard to rotary lateral curvature are:

1 That the fixed type of rotary lateral curvature developed in childhood and persisting in adolescence cannot be perfectly cured.

2 That the general condition of the patient can be much improved.

3 That the anteroposterior postural deformity can be corrected.

4 That the lumbar lordosis can be corrected.

5 That the lateral deviation of the body can be corrected.

6 That the lateral deviation of the spine is corrected in earlier cases.

7 That the rotation of the vertebrae may be improved but not corrected.

8 That the results obtained by the use of the plaster jacket applied by the Abbott method in flexion with corrective pads are very satisfactory in that the results above enumerated are possible to be obtained in a shorter time (within six months) than by any other method of treatment heretofore practiced.

CHARLES M JACOBS

Colliver J A.: *Early Symptoms of Poliomyelitis with Special Reference to a New Preparalytic Symptom*. *Calif St J Med*, 913 21 443.

By Surg. Gynec & Obst.

During an epidemic occurring in Southern California in 1912 the author noted, in addition to the classic symptoms in the preparalytic stage a peculiar twitching, consisting of tremulous or convulsive movements of certain groups of muscles, lasting from a few seconds to less than a minute which did not occur oftener than every hour unless the patient was disturbed. The amplitude of vibration was greater than a tremor not so constant and long as a convulsion and more regular than mere twitching. Yet some of the elements of all being present. It usually affected a part or whole of one or more limbs the face or jaw but sometimes it affected the entire body. This condition was often accompanied by a cry similar to the hydrocephalic. At times there was a slight convulsive movement during which the child was apparently unconscious, with eyes set for a few seconds, followed by an immediate return to consciousness. The phenomenon resembled the condition found in strychnine poisoning except that the tetanic contractions were not general and did not last for any length of time.

CHARLES M JACOBS

Parker C A. *How Foot? Pes Cavus*. *J Am M A* 29 3 121 886. By Surg. Gynec & Obst.

The author states that an increase of the longitudinal arch is entirely normal in some cases but that it may become so great as to cause serious disability that pes cavus is essentially an increased concavity of the arch with a mortening of the structures of the foot, usually associated with dorsal retraction of the toes which is no part of the cavus, but bears a important relation to its development. That it is

of false security and the consequent neglect of other therapeutic measures, such as external support.

In the discussion of the paper the consensus of opinion was that these operations are still to be

considered as in the trial stage. Cotton reported some interesting results of experiments he has been doing in the use of spongy bone for grafts, his work seeming to show that they are superior to cortical bone for this purpose. C. E. WELLS

SURGERY OF THE NERVOUS SYSTEM

Leriche R. Stretching and Section of the Perivascular Nerves in Some Painful Syndromes of Arterial Origin, and in Some Trophic Disturbances (De l'élongation et de la section des nerfs pérvasculaires dans certains syndromes douloureux d'origine artérielle et dans quelques troubles trophiques). *Lyon chir.* 93, 378.
By Journal de Chirurgie

Spisharnij J. K.: Surgery of the Nerve Trunks (Zur Chirurgie der Nervenstämme). *Verhandl. d. XII Kongr. russ. Chir.* 1913, XI, 63.
By Zentralbl. f. d. ges. Chir. u. l. Grenzgeb.

The author reports 27 cases which are divided into two groups. The first group comprised 15 patients, on whom 18 operations were performed, consisting of nerve-anastomosis, nerve-suture and neurolysis. In the cases of anastomosis the normal nerve accessory hypoglossus, was implanted into a split in the paralyzed facial and the cut ends of the nerve were united by direct suture. If a large part of the nerve was removed he attempted to restore it by stretching both stumps. In one case a resected piece 6 cm. long was compensated for in this way. Primary suture of nerves has no advantages over secondary since the regeneration of the peripheral section does not take place till after about six months, though if the ends are not reunited within this time the regenerated fibers undergo degeneration again.

In order to guard the nerve which has been sutured or freed from cicatricial tissue from adhesions with the neighboring tissues, the author recommends making a sheath of fascia lata. In 60 per cent of his cases he obtained restoration of function or improvement, but in no case complete *restitutio ad integrum*. Restoration of conduction took place only after considerable time—as long as a year—and sensation was restored first then motion. The best results were obtained in the radial nerve.

In the second group are nine cases of resection of nerve trunks among them the three of nerve implantation already mentioned in which complete functional restoration was accomplished. Five times nerve trunks had to be resected in extirpation of tumors. Resection of the vagus on one side, in 3 cases, did not cause any serious symptoms in heart or respiration either during or after the operation. In severe cases of neuralgia of the second and third divisions of the trifacial nerves, he cut the roots of the gasserian ganglion, partially excised the latter, and removed the intracranial part of the second and third divisions. Besides accomplishing complete cure this operation has the advantage of being less dangerous for the patient. Bleeding from the middle meningeal artery during the operation was avoided by cutting it at the foramen spinosum and stopping up the opening with a piece of bone. The same procedure can be used at the foramen ovale and the foramen rotundum to avoid regeneration of twigs of the trifacial.

STROMBERG

Stretching the solar plexus has failed in the treatment of the gastric crises of tabes, but Leriche believes that this procedure devised by Jaboulay should not be dropped from surgical treatment and that there may be other indications for it in troubles of sympathetic origin.

He points out three possible indications which are not however sanctioned by general practice. They are as follows:

1. Intestinal syndromes of arterial origin, consisting in crises of pain around the umbilicus with general or partial distention of the intestine, absolute constipation, dyspnoea, crises of enteralgia and vasomotor diarrhoea and certain forms of symptomatic enterocolitis accompanied by out-breaks of diarrhoea with bloody stools, may be improved by stretching the solar plexus and sectioning the sympathetic fibers which surround the superior mesenteric artery at the point where it crosses the third part of the duodenum.

2. In subacute inflammation of the arch of the aorta, the agonizing pain and the reflex disturbances, angina of the breast, vertigo, dyspnoea, and acute oedema of the lungs are in large part due to inflammatory irritation of the nervous plexus around the aorta. By resection of the second and third costal cartilages the aorta may be laid bare at its point of departure from the pericardium and the plexus freed from its inflammatory adhesions.

3. There are indications for denudation of the large arterial trunks of the limbs in Raynaud's disease and perhaps also in congenital trophic oedema, which Sicard and Laignel-Lavastine have attributed to a sympathetic origin and it has been proved in stubborn perforating ulcers (Jaboulay, Leriche).

The above are only suggestions and have not yet received the sanction of practice. They may perhaps appear somewhat dangerous but they are logical. In a case of trophic oedema of the leg Leriche performed denudation of the femoral artery in Scarpa's triangle; the operation caused a decrease of 2 cm. in the circumference of the leg, but the case was not followed up.

CH. LENOIR

the intervertebral cartilages which consist chiefly in a change of the peripheral zone of the hyaline cartilage into osteoid substance in a relaxation of the fibers of the annulus fibrosus, and in a solidification of the nucleus gelatinosus

2 In primary bony ankylosis of the spinal column the changes in the intervertebral cartilages are absolutely different from those caused by advancing age and may be briefly designated as chondrodystrophic ankylosis of the vertebrae.

3 The changes in the ankylosed spinal column consist in the formation of bridges between the bodies of the adjoining vertebrae in ankylosis of the small joints, and in ossification of the ligaments sometimes there is also osteoporosis

4 In the different segments of the same spinal column different forms of the above changes may be observed which indicate that they are related in their pathologic-anatomy

In some cases symptoms of affection of the central nervous system predominate In these cases autopsy discloses chronic meningitis and degenerative changes of the spinal roots and of the substance of the spinal cord which justifies the separation of these cases into a special group called Bechterew's disease

6 The other forms of ankylosis of the spinal column described in the literature have not been subjected to a sufficiently careful pathologic anatomical study to enable them to be differentiated There are 26 illustrations in the work, and a bibliography of 221 titles RIZSECKAMPFF

Peltesohn S. Abbott's Treatment of Scoliosis
(Über die Behandlung der Skoliosen nach Abbott)
Med Klin Berl 1913, 18, 145
By Zentralbl f d ges. Chir u i Grenzgeb

The author gives a short review of the literature that has appeared on the subject up to this time and a critical discussion of the principles, technique and results of Abbott's method An improvement in scoliosis can be brought about by a strong pull on the head (Wullstein) and other authors have previously recommended the overcorrection of this deformity The chief new thing in Abbott's method is the overcorrection and fixation in the position of flexion of the spinal column, which is best suited for the overcoming of scoliosis

A further important point is the auxiliary effect of breathing in the restoration of the form of the thorax and the careful after treatment The thirty cases of scoliosis of the second and third degree treated with this method by Peltesohn have shown good results but on the whole do not permit of a decisive judgment in regard to the value of the method

The question must still be left open as to whether as in Wullstein and Schanz's plaster jacket treatment there is only an improvement in the external form of the body or whether there is a real anatomical restoration of the diseased part of the skeleton and after how long a time such a restoration may be

expected It is certain, however that Abbott's method avoids the severe injury to the organism and the high grade atrophy of the muscles that follows the wearing of a plaster jacket for only a few months and the gymnastic after treatment that is necessary to overcome it

Strict indications for the method cannot be given as yet but in the choice of cases there should be a good general condition and the absence of acute inflammation of bone Scoliosis of the second and third degree should be chosen and those with a single round curve seem to lend themselves better to correction than those with short double angular curves In general Abbott's method must be regarded as a decisive improvement in the treatment of severe scoliosis DÜCKER

Nutt J J. Results of Bone Plastic and Graft Operations on the Spine for the Cure of Pott's Disease *J Am M Ass* 1913, 18, 1380
By Surg. Græc & Obs.

Nutt has observed 15 cases of the above, at Sea Breeze Hospital since November 1912 There were 11 grafts from the tibia and 4 plastics of the spines of the vertebrae—the results showing nothing to indicate preference for either operation Temperature and weight curves were not affected, high temperatures continuing after the operation

The cases are reported in some detail, and the results are tabulated From the table it appears that the average age of the patients was from 2 to 6 years 10 being under 4 The duration of the disease before operation was from 6 to 24 months in 10 cases the time being unknown in 5 cases At the time of operation, the cases were classed as follows Acute 2 fair 3 excellent 3 arrested 4 The disease was, in all cases either dorsal or dorsolumbar External support was removed in from 45 days to nine months except in two cases in one of which no support was used the other having continuous bed treatment Symptoms of insufficient protection appeared in one to six months in the 6 cases which prevented definite symptoms of relapse, 7 had no return of symptoms, and in 2 cases it was a question whether the symptoms had been relieved at all The deformity increased in 0 cases, including 4 classified as having no return of symptoms, muscular spasm being present in all cases showing symptoms

Nutt concludes that the operation was beneficial in 3 cases doubtful in 3 and of no benefit in 9 2 cases being still under treatment at a period of from 6 to 18 months after the report these including some from each of the last mentioned groups The author's conclusions are (1) The claims for the operation have not been substantiated (referring to the report of the Sea Breeze Hospital) (2) Alterations in technique such as implantation of longer graft and extension of the time of external support may improve the results, but this could be determined only after two years observation (3) The danger from the operation is not the result of the operation itself but the result of creating a severe

tion of heat and later prevents drainage from the treated area. Without drainage there is danger from the absorption of large quantities of killed cancer-cells

Maragliano D: *Physiotherapy of Abdominal Shock* (*Traotepa dei traum gastro-omentali*)
C n ch 19 3 xii 1945

By Zentralbl f d ges Chr u Grenzgeb

The author discusses in detail the new theories as to the cause of shock set forth by Preil Tixer Guinard Buerger Churchman Howell and others. They seem to be agreed that (1) shock is always accompanied by a fall in blood pressure and (2) this fall in blood pressure results from certain nerve reflexes which may be aroused by different forms of irritation. Maragliano performed a series of experiments on anesthetized dogs designed to clear up the mode of action of these reflexes. The carotid was connected with a Hering's kymograph so that the effect of eventration of the stomach and different manipulations performed on this organ and the omentum were graphically recorded.

In a series of experiments performed on 5 dogs anesthetized with chloroform only pulling out or stretching the stomach caused a fall in blood pressure a slowing of the pulse and an increase in its volume. These phenomena did not always occur at first but always occurred after the irritation was repeated three or four times. In the beginning of the experiment there was often a period of indifference. The peritoneal reflexes caused by mechanical stimulation may come through the sympathetic or the vagi. Von Tarchanoff Crile and others think that the sympathetic is the chief agent in causing a fall in blood pressure. The vagus on the other hand causes changes in the heart's action. The author tried to determine the function of the vagus. In two animals he cut the vagi in the neck on both sides and after a time carried out the manipulations above described on the stomach. There was a fall in blood pressure but the heart's action was unchanged. This shows that the vagi determine pneumocardial shock. These reflexes are suppressed when either the end organs of the nerves or the nerve trunks are paralyzed. He injected novocaine into the stomach omentum and surrounding tissues. The results were not convincing but when mixed anesthesia was used on dogs—chloroform and morphine, 2-5 mg to a kilogram of body weight—there was often a marked rise in blood pressure which was repeated with each fresh mechanical stimulation. The frequency and volume of the pulse did not show any further variation.

The morphine or pantopon should be given a half hour before the beginning of the experiment. If a bilate al section of the vagi is performed on animals so treated the fall in blood pressure and the changes in rhythm and quality of the pulse appear again. The alkaloids of opium used to precede chloroform anesthetization show a very favorable effect which the author attributes to the avoidance of anesthetic

shock. He recommends therefore the avoidance of traumatic shock in operations, the giving of morphine before the operation and suggests that after the operation the patient should be kept for two or three days in a condition of slight morphine stupor. He does not discuss the possible effect of this procedure on the lungs and intestines. Horz

Stich R: *Present Status of Transplantation of Organs* (*Über den heutigen Stand der Organtransplantationen*) *Deutsche med Wchnschr.*, 1913
xxix 1865

By Zentralbl f d ges Chr u Grenzgeb

The most careful asepsis is an essential condition of success in the transplantation of organs by suture of the vessels. Carrel's method is the best. Arteries and veins which have undergone autoplasmic transplantation show under the microscope that the different layers are completely intact while those that have been transplanted to different animals and more especially those that have been transplanted to animals of different species show almost without exception a replacement by the tissues of the body to which they were transplanted. Skin transplantations can be carried out successfully in animals that are close blood relations. Periosteum, bone marrow fat tendons and cartilage have been transplanted between animals of the same species.

Autoplasmic transplantation has been successful with suprarenal glands, epithelial bodies, and ovaries. The longest time during which a kidney transplanted to an animal of the same species has continued to functionate has been three months. Reimplantation of thyroid glands has frequently succeeded with complete functional activity. The failures have been due to thrombosis of the thyroid veins. The suture of the veins is the decisive factor. If thrombosis takes place at once the transplanted organ is lost if it does not take place until later parts of the thyroid may recover as a result of vascularization from the surrounding tissues.

All attempts at transplantation between man and animals have failed. Homoplasmic transplantation of the spleen has sometimes succeeded. Attempts to further the success of homoplasmic transplantation by serum injections from one animal to the other by long continued living under the same conditions and with the same diet, and by even parabiotic union of the two animals by vessel suture have failed.

WORMAN

Reschke K: *Autoplasmic and Homoplasmic Transplantation* (*Die autoplastische und homoplastische Transplantation*) *Dissertation*, Berlin, 1913
By Zentralbl f d ges Chr u Grenzgeb

In the author's experiments, pieces were removed from the stomach and bladder of dogs and the mucous membrane was dissected off and attached to the outside of the stomach and bladder in some cases with the mucous surface turned inward in other cases outward. Twenty six transplantations were done 16 of them autoplasmic and 11 homoplasmic.

tic. The latter underwent necrosis except for a part of the muscularis mucosa and were surrounded and penetrated by granulation tissue so that they presented the picture of a connective tissue callus.

The bladder mucous membrane, which does not have a muscularis mucosa was all absorbed. In the autoplasmic cases with the mucous side turned inward cysts of various sizes were formed, and where it was turned outward there were omental adhesions between which and the mucous membrane cysts were also formed. Both stomach and bladder mucous membrane lived and looked like normal tissue. Two of the cysts were examined, and in one of them pepsin was found in the other free acid which must have been secreted by the transplanted glands. Thus they found in homoplastic transplantation only a connective-tissue callus while in the autoplasmic transplantation there was living proliferating functioning tissue.

The differences between autoplasmic and homoplastic transplantation were not the same with all tissues. In tendons there was no difference in bone tissue it only developed gradually. Homoplastic transplantation of vessels gave good functional results in spite of the gradual absorption of the transplant and the substitution of connective-tissue for it. Homoplastic transplantation of fat had only slight results in contrast with good results from the corresponding autoplasmic transplantation. Homoplastic transplantation shows poor results in the skin, mucous membrane and glandular organs while transplantation of these tissues in the same individual generally produces excellent results.

Fritz Loez

SERA, VACCINES AND FERMENTS

Wolfsjohn G. Serum Diagnosis of Cancer
(Über Serodiagnostik des Carcinoms) *Arch f kl n*
Chir 1925 *cl* 247

By Zentralbl f d ges Chir u Grenzgeb

The author discusses a number of the methods of serologic diagnosis of cancer and especially the question of their utilization for clinical diagnosis. The hemolytic reactions, the complement fixation method, the allergic reactions, and the antitypsin reaction cannot be used clinically because they are too uncertain in their results. Precipitation, coagulation, and agglutination cannot be used, for it is too difficult to get a uniform tumor extract that can be kept however the latter reactions may be regarded as specific in a biological sense. The mesostagmin reaction with lecithin acetone extracts has thus far shown good results, though the material examined is relatively small. As this reaction is relatively easy to carry out it should be made use of in practice. Abderhalden's method of demonstrating specific protective ferments has probably the greatest future before it, as it is absolutely specific, both clinically and biologically and gives dependable results even in the early stages of tumor formation.

Strass.

BLOOD

Hanser R. Thrombosis (Zur Frage der Thrombose)
V rebau' A ch f path Anat etc Berl 913 *conu*, 65
By Zentralbl f d ges Chir u Grenzgeb

The author gives a detailed study of the literature of thrombosis and a considerable section of his article is devoted to the theories in regard to it. A thorough consideration is given also to the history, anatomy, physiology, origin, distribution and number of the blood platelets. The chief part of the work is devoted to the question of thrombosis itself. Hanser reviews all the important theories and facts brought out by anatomical, clinical and experimental research. His own experiments were devoted to the important question of the formation of thrombosis in circulating and in stagnant blood after corrosion of the vessel walls. Thrombus was always found in circulating blood but except for the presence of very minute collections of blood platelets, it could never be found in stagnant blood. In conclusion a résumé is given of the chemical and physical conditions in the formation of thrombus and the author's opinion in regard to thrombus that he has drawn from his own experiments.

KLEINSCHEIDT

Vaughan J W. Direct Blood Transfusion. J
Med Sci N Soc 93 *nu*, 382

By Surg. Gynec. & Obst.

In this article but two phases of the subject are considered: the indications for direct transfusion and the method of choice. The chief indication for the use of whole blood are in conditions where the red cell is needed for its physiological action as in severe hemorrhage from any cause curable surgically also after repeated small hemorrhages in which the hemoglobin index is low as in gastric or duodenal ulcer or ulcer of the lower intestinal tract or rectum. In acute infections the addition of fresh blood would not seem to be of much benefit except possibly in pneumonia where the cause of death is seemingly closely related to the formation of methemoglobin. Freshly introduced red cells thus might replace those which had lost their ability to supply sufficient oxygen to the tissues. In gas poisoning or other asphyxias the same indication is present. In these conditions the withdrawal of blood should be done before transfusion in order to rid the individual of non-functioning corpuscles as well as a percentage of the gases contained in the serum.

Attention is called to the fact that transfusion is often done when the administration of serum or of saline would answer the purpose and that the operation is often done where there is no indication, thus bringing the method into disrepute.

In regard to the method of choice the author believes the only way in which a satisfactory vein-to-vein anastomosis can be obtained is by the use of a method in which a positive pressure under control of the operator can be applied to force the blood into the vein of the recipient. The apparatus

devised by Freund based on the principle first used by Vaughan and Cooley is described and illustrated. It consists of two needles connected to a glass syringe by means of a two-way stop-cock. Above the stop cock is a saline container for diluting the blood. With this apparatus, positive pressure can be applied and the amount of blood given the recipient measured with certainty. Its use requires no anæsthetic and it can be performed by any competent practitioner. E K ARMSTRONG

Kimpton A R. Transfus on by Means of
GI as Cylinders *Boston M & S J* 913 clxxx 783
By Surg Gynec. & Obst

The method of the author is comparatively simple and consists in the withdrawal of a definite amount of blood from a vein of the donor and the injection of the blood through the same cannula used for its withdrawal into the vein of the recipient. The vessel into which the blood is drawn is a glass cylinder completely coated with paraffin.

The glass cylinder may be of any size desired but the author has found two sizes 150 ccm and 250 ccm to be the most useful. The top of the cylinder is closed with a cork, and a short distance from the top a side tube leads from the cylinder. This side tube is used to attach an ordinary cautery bulb to when the blood is being forced into the vein of the patient. The lower end of the cylinder is drawn out and a cannula is attached to the drawn-out end. The entire apparatus is sterilized and completely coated with an oily mixture of vaseline 2 paraffin 2 and stearin 1.

The technique of the procedure is as follows. A tourniquet is placed on the donor's arm tight enough to give venous congestion and still allow arterial blood to flow in. With novocaine a vein just below the elbow is exposed cleanly and tied proximally. A ligature is placed around it distally but is not tied. This ligature raised by an assistant acts as a clamp. The vein is now transected by a cataract knife and a slit is made in the ulnar vein of the recipient; prepared in like manner except that it is tied distally.

The cannula of the cylinder is then inserted into the vein of the donor and held upright until filled by venous pressure. It usually takes only two to three minutes for a 150 ccm tube to fill. Being filled the cannula is withdrawn and held in its side with side piece uppermost to prevent the blood from running out. The cannula is next inserted into the vein of the recipient and held in an upright position after which a cautery bulb pump is attached to the side tube and by a little pressure the blood is emptied the cannula being withdrawn while there is still a little blood left in it.

The method has to the author's knowledge been used fifteen times either by himself or others with out difficulty except in two cases. In these there were errors of technique and when they were corrected the patients were easily transfused.

Among the dangers of the method acute dilatation of the heart is the most important manifesting

itself by precordial distress, dyspnoea and rapidity of pulse. Stopping the flow by pressure of a finger on the vein will usually overcome this complication.

The method has the following advantages (1) The technique is comparatively simple (2) a trained assistant is not essential and (3) the amount of blood transfused can be definitely measured.

J H SKILES

POISONS

Haines W D: Gas Bacillus Infection with
Report of Cases *Tr Western S & A St. Louis*
1913, Dec. By Surg Gynec & Obst

Haines spoke of the high mortality of this type of infection and the importance of early recognition and prompt action and referred to the 'foamy liver' as one of the constant post mortem findings.

The intestinal tract is one of the normal habitats of the gas bacillus and invasion of the adjacent cellular structures may take place through ulcer malignant disease or perforation.

A case is cited wherein an enormous abdominal distention from gas bacillus was mistaken for post operative dilatation of the stomach.

The disease appears as a local phlegmonous inflammation characterized by extensive exudate and the presence of hydrogen gas in the tissue spaces. Pressure gangrene and profound general toxæmia are frequently associated with these clinical manifestations. The period of incubation in one of the cases reported was 48 hours in the second case it could not be determined.

The bacillus *aerogenes capsulatus* is aerobic therefore success in the treatment will depend more upon free exposure of the infected area than upon any form of local or internal medication.

The report of two cases, one of infection of the scrotum and the other of the arm wherein recovery followed free incision concludes this interesting paper.

Cambatch E P: Fatal Leukopenia Follow
ing X Ray Treatment *Arch Röntg Ray* 1913
viii 187 By Surg Gynec & Obst

In his opening remarks the author says. The actual number of leucocytes at any one time does not seem to be a sufficient guide to decide whether the irradiation should be continued or not. The case reported is that of a house servant aged 32 years who had been ill six months when she entered the hospital. Examination showed Leucocyte count 69 000 per mm spleen enlarged diagnosis plasm medullary leukæmia. Arsenic was given for a few days then arsenic and X ray treatment together during the 28 days she remained in the hospital. She returned for X ray treatment as an out patient after her discharge. The red bone marrow was treated with unfiltered irradiations no portion received more than 1 Sabouraud pastill dose (tint B) each month. The spleen received a filtered ray to protect the erythroid skin since the latter was radiated more frequently than the skin over the bone. During the first sixteen days a total dose of 7 1/2 pastilles

was administered, the leucocyte count fell to 234 000 per cmm and the patient lost weight. The dose was reduced to one pastille each six days. The patient regained weight and improved rapidly. At the end of 121 days leucocytes had fallen to 4 000 per cubic millimetre and the spleen could just be felt under the left costal arch. Treatment was suspended.

Thirty-seven days later the weight had increased seven pounds and the blood contained 6,300 leucocytes per cmm. 603 of these being myelocytes. Twelve days after this examination the spleen having enlarged a pastille dose of X-ray was administered to this organ. In three weeks the patient returned complaining of shortness of breath and a sore throat. She had lost color, her tonsils and pharynx were inflamed, an ulceration and granulation had appeared on the palate and uvula. Blood examination showed profound anemia. The pernicious type number of leucocytes 850 per cmm, 214 of these being myelocytes. Eleven days later she died.

The author compares this case with three others treated in a similar manner with beneficial results, his conclusion being that in the fatal case the terminal leukopenia may have been the result of the heavier dosage causing the disappearance of the normal leucocytes more rapidly than the myelocytes.

FRANCIS C. TRACY

Bondy O. : Bactericidal Effect of Mesothorium
(A rache über die bactericide Wirkung des Mesothorium). *Zentralbl. f. Gynäk.* 1913, xx vii 114.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäcolog.

The quick cessation of putrefaction in carcinomaous ulcers after treatment with radioactive substances, caused Bondy to make an effort to determine whether it was due to a bactericidal effect of the radiant material, or whether it caused an alteration in the tissues of such a nature that they no longer offered a favorable soil for the growth of the bacteria. It is known that the radium rays have a bactericidal effect. Bondy used as material two mesothorium capsules, a flat mica capsule with 5 mg. of mesothorium and a silver tube with 30 mg. The results were that the unfiltered rays caused a cessation or diminution of the growth in colonies of prodigious and staphylococcus but they had no effect on streptococci and tetani. The filtered rays had no effect. The α rays and a part of the β rays are bactericidal the γ rays are not. As it is chiefly γ rays that are used in the treatment of carcinoma the author believes that the effect of mesothorium on upsurges in carcinoma is due to an alteration in the tissues.

ROSE L.

MILITARY AND NAVAL SURGERY

Wideröe S. : Military Surgery (Kriegschirurgische Mitteilungen). Kristiania, Norh 1913.
By Zentralbl. f. d. ges. Chir. u. i. Grenzgeb.

These contributions are from the First Reserve Hospital in Belgrade where the author had a chance to treat 657 wounded from October 26 to December 25 1913. He emphasizes the importance of the first aid equipment as well as the necessity of instructing the soldiers themselves in its use. Further he mentions the importance of most careful transportation. The majority of the patients upon entrance to the hospital wore their first bandage. A list of the new arrivals was made at once as regards diagnosis, treatment, diet and course. This list always accompanied the patients when they were transferred to another hospital and was found to be very practical. Wound treatment consisted of asepsis and dry treatment. Tamponing, sounding or extracting of bullets was used only with special indications. Chafed feet did not occur and the soldiers used their own footwear, soft shoes without heels laced above the ankle. In 90 per cent of all cases the wounds were aseptic and of the cases treated by the author 60 per cent were ready for service after a few weeks. This depended in the first instance upon the small caliber of the bullets, their great initial velocity and hardness as well as the correspondingly slight injurious action.

Of complications arising in the course of the wounds may be mentioned erysipelas, 1 tetanus, 1 pulmonary embolism, 1 paralysis of a nerve, 5 aneurism, 2. Fractures of the upper extremities were the most frequent especially of the humerus, 9 cases noted others numbered 16 fractures. Of 66 bullets without exit 52 were extracted, 14 patients were discharged without removal of the missiles. The bullets as a rule were not removed through the track of the bullet. Of 657 wounded 77 were severely injured, 11.7 per cent of these 20, 4.4 per cent were declared unfit for service. The infection of the gunshot wound varied in the various Belgrade hospitals from 5 to 50 per cent depending on the nature of the lesions. In the First Reserve Hospital there were 520 gunshot lesions with 6 cases of lymphangitis and 23 abscesses or 6 per cent of clinical infections. The predominant part of the gunshot lesions occurred in the right arm and right shoulder. The author finally reports a few special lesions in detail. There were 22 gunshot wounds of the leg which healed without complications.

NATHAN.

GYNECOLOGY

UTERUS

Liegnér B: Histology of Carcinoma of the Cervix (Z r H Histologie des Carcinoma cervicis uteri) *Berlin Gynäk u Gynäk* 19 3 xviii 399
By Zentralbl f d ges Gynäk u Geb rish s d Grenzgeb

Liegnér reports thirty cases of carcinoma of the uterus removed by operation and describes in detail the histological findings in the individual cases. He did not confine his examination to the uterus itself but also examined parts of the parametrium the vagina and the regional lymph glands. In the summary of his findings he calls attention to the fact that the individual carcinomata show marked differences as to form of cells, structure and growth so that no two are alike. A point of practical value is that the macroscopic and microscopic findings do not agree often a carcinoma is much farther advanced than its gross appearance would indicate and on the other hand the parametrium is often shown by the microscope to be free from carcinoma, though from its appearance it would seem to be infiltrated beyond question. For this reason he invariably advises abdominal operation for uterine carcinoma. It is at present not possible to draw any conclusion as to the relative malignancy of the carcinomata from the histological pictures.

O Strz

Wertheim's Cancer of the Uterus (Le cancer de l'utérus) *Ann de gynéc et obs* 1913 21 302
By Journal de Chirurgie

This résumé of Wertheim's paper before the London Congress shows that his technique has changed little since his previous communications. He still practices extensive hysterectomy from above downward with section of the vagina last. The dressing of pre-operative vaginal infections, instead of being done with gauze soaked in bichloride is now done with a 5 per cent solution of nitrate of silver to avoid bichloride poisoning which is rare but possible. Total closure above is made and drainage provided through the vagina. This drainage is not responsible for fistulae of the urethra. They occur in 6 per cent of cases according to the author's latest statistics.

In spite of general improvement and progress 50 per cent of the cases of uterine cancer are inoperable. The operative mortality in the latest statistics is 72.4 per cent 15 to 16 per cent. At the end of five years there were 4.5 per cent permanent cures.

Cancer of the body of the uterus is less frequent and the author cannot give extensive statistics on regard to it but it is itself with definite regard to the abdominal operation. It is more likely to be simple or radical hysterectomy according to the case and the extent of the lesion.

Rubin I C. The Early Diagnosis of Uterine Cancer with Especial Reference to Diagnostic Excision of Cervical Lesions Diagnostic Curettage and the Routine Microscopy of Curettings *Am J Surg* 1913 xxvii 411
By Surg Gynec & Obst.

The object of this paper is to present the difficulties attendant on our efforts to establish an early diagnosis of cancer of the uterus and to emphasize the value of the diagnostic surgical methods which can be relied upon to accomplish this end. The unnumbered difficulties associated with a correct diagnosis must be considered from the viewpoint of the patient and from that of the physician. The very energetic movement now on foot in this country to instruct women in the recognition of the signs of uterine cancer is timely and necessary but it must be noted that a similar movement started abroad has failed and thus it is clear that little dependence may be placed upon the patient. Something may be hoped from warning the public but it is plain from the nature of the disease its insidiousness and the fact that it has taken deep root before the patient becomes aware of its presence that one can expect very little aid from the patient in the detection of early carcinoma. The means of detecting it lie solely in the hands of the medical profession and this excellent paper reviews the methods by which an early and correct diagnosis may be reached.

Cancer spreads in the uterus in three ways according to Schottlander: (1) The common endophytic type extending toward the parenchyma of the uterus; (2) the exophytic type spreading toward the uterine or vaginal canal; and (3) extension along the surface mucosa. Usually these ways of propagating are combined one type of extension being more prominent than the other. Histologically the manner of extension is by direct contiguity of cells or by lymphatic extension. Clinically the exophytic variety is easier to diagnose owing to its tendency to appear where it may be seen and to its early tendency to ulceration and is therefore the less malignant of the two. The endophytic variety with the same intensity of symptoms usually shows a greater tumor growth. The symptomatology of cancer of the uterus varies according to its actual size and the tissue invasion. The solid variety causes far earlier symptoms than the glandular and the medullary earlier than the scirrhous.

The two means of diagnosing early cancer growths are emphasized also: careful routine clinical and pathological examinations. The first should include bimanual palpation vaginal-cervical inspection introduction of the uterine sound unless contra-indicated and if suspicion of cancer is thus aroused diagnostic curettage or excision of the cervix or

both The routine pathological examination of uteri removed for any cause may bring to light clinically unsuspected carcinomata. Schottlander found cancer in 2 per cent of uteri removed for various reasons and the author reports several cases of the same nature. Particularly during the fourth decade of life should the importance of diagnostic curettage and excision be urged while all curettages performed for the purpose of stopping bleeding should be regarded as diagnostic curettages. All circumscribed erosions with a tendency to bleed or which overlie indurated parenchyma should be excised. Of 64 diagnostic curettages for suspected uterine cancer the preoperative diagnosis was correct in 45 per cent and in 106 exploratory incisions of the cervix for the same reason the diagnosis had been correctly made in 46 per cent of cases. In view of the fact that primary corpus cancer is to that of the cervix as 1 to 14 the cervix mucosa should unfailingly be curetted.

Early cervical carcinoma must be differentiated from (1) Simple follicular erosions cystic and hypertrophic (2) small polyps (3) syphilis (4) tuberculosis (5) decubitus ulcer (6) protruding submucous myoma.

The criteria for the microscopical diagnosis of young carcinomata are (1) Well marked atypical condition of the epithelium which is converted from a single cylindrical to a metaplastic many layered variety (2) well marked difference in the size of individual cells in shape arrangement and chromatin content (3) the presence of atypical mitosis (4) the presence of giant cells or giant-nuclei.

While it is not always easy to decide between various types of metaplastic epithelium as to their benign or malignant significance nevertheless when these four conditions enumerated above are present in any given abnormal epithelium it is safe to assume that malignancy has its inception there. At present when metaplastic epithelium with morphological characteristics is found it is safest to remove the uterus in a radical manner. To wait for typical clinical evidence or characteristic signs of a full fledged growth is to take away the principal opportunity for a cure for as Brunot has shown there is invasion beyond the uterus as early as four weeks after the symptoms appear.

E. K. ASHMEAD

Berkeley G and Boney V Results of the Radical Operation for Carcinoma of the Cervix Uteri. *J Obst & Gynec Brit Emp* xxiv 93 145 By Surg Gynec & Obst

The authors present the results of 71 operations more especially with regard to the prolongation of life than to the definite cure. In the main, Wertheim's technique has been employed with systematic removal of the glands in the parametric tissue, the obturator fossa and also of the iliac vessels. These 71 operations, chosen from 122 patients, show an operability rate of 63 per cent representing

the limit of what can be performed on cases of the type coming under observation only refusing or desisting from operation when the growth has gravely involved the bladder both ureters, or the rectum.

Glandular metastases were found in 38.8 per cent. The op-rative mortality works out at 22.5 per cent. In 23 cases, recurrence took place although 3 of these patients are alive four years or longer after the operation. The results are thus tabulated:

Cases presented for treatment	112
Cases operated upon	71
Died as result of the operation	16
Died of recurrence	20
Died of intercurrent disease	2
Disappeared	2
Alive with recurrence	3
Alive and well	28

The authors estimate their ideal late result at 54.9 per cent the actual late result at 40.5 per cent, and the actual accomplishment based on Winter's second formula at 25.9 per cent. While these results do not enable the authors to claim a large number of cures the life-prolonging effects of the operation on those surviving it seems to be substantiated.

CAREY COLBERTSON

Caraven, J and Merle P: Diffuse Adenoma of the Cornua of the Uterus (*L'adénome diffus des cornes utérines*). *Rev d gynéc et de chir abdom* 913 xxxi, 307 By Journal de Chirurgie

The authors report the case of a woman of 38 who had always had painful menstruation and who had had a profuse hemorrhage. Laparotomy showed a small hematoma and bilateral hematosalpinx. The tubes and uterus were removed.

Examination of the specimen showed on the left side a hematosalpinx containing chorionic villi on the right a hydrohematosalpinx without any villi.

At the angles of the uterus there were a large number of irregularly shaped cysts of varying sizes, some almost microscopical and some as large as a grain of wheat forming all together a small diffuse tumor that could not be enucleated. These cysts were filled with blood and lined with cylindrical epithelium which had vibratile cilia in some places. The muscular tissue was not hypertrophied but was covered directly by the epithelium without any connective tissue intervening.

The essential point about the tumor was the epithelial proliferation. This is true in the most of the cases collected by the authors. Therefore, they think the term adenoma is preferable to that of adenomyoma used by numerous authors.

Tumors of the angles of the uterus have been studied by Chari, Schauta, Barabau, Pilliet and especially Reclinghausen in 1896. The first extensive work on the question in France was that of Jayle and Cohn in 1900. These adenomas are located at the point of entrance of the tube into the

uterus they are often bilateral (15 out of 19 of Recklinghausen's cases) which is an argument in favor of their congenital origin. They are small tumors rarely larger than a hazel nut diffuse non capsulated, not capable of enucleation. Sometimes there is an unusual cystic development forming a cystadenoma. Sometimes the blood vessels which are normally not abundant become very numerous then we have a telangiectatic adenoma which is rare. Sometimes the cystic cavities are grouped in such a way as to resemble the arrangement of the tubes in the wolffian body. Almost always lesions of the adnexa coexist with them such as cysts of the parovarium chronic fibrous salpingitis tubo-ovarian cysts adenoma of the tubes hematosalpinx tubal pregnancy etc.

The pathogenesis of these tumors is generally obscure. Some of them without doubt originate from the wolffian body—those that have the arrangement of the cysts mentioned above some from Gaertner's duct and some from cysts of the parovarium. The cavities of the adenoma sometimes communicate with those of this structure. But often such evidences of their origin do not exist. Some authors say they are derived from adenomata of Müller's duct. Ferroni has reported two cases in the course of tubal pregnancy where there was a decidual reaction between the epithelial lining of the glandular cavities and the muscle lying beneath it. In some cases an inflammatory origin is very probable. There is proliferation of the mucous membrane of the tube prolongations of which extend between the muscles.

Caraven and Merle think their case was of tubal origin but not inflammatory. Adenomata of the angles of the uterus have not been diagnosed clinically only the coexisting lesions of the adnexa have been diagnosed. The prognosis is grave for they predispose to hydrosalpinx and hematosalpinx and also to extra uterine pregnancy.

The treatment consists in the removal of the diseased adnexa and resection of the oedematous angle of the uterus. If the lesion is bilateral hysterectomy with total extirpation of the adnexa should be performed.

GEORGES LABRY

Boni A. Infiltrating Hydatidiform Mole (Mole
escule infiltrante) An d ost 93 N 3
306 By Journal de Chirurgie

A woman of 3 had had two normal deliveries at term. In 1912 a large hydatidiform mole was discharged. She was curetted and no vesicles found. A second curettage was performed a few days later and showed nothing abnormal in the uterine cavity. For two months the patient was well but at the end of that time she had another profuse hemorrhage which lasted several days. A third curettage was done and several cysts obtained. It was not thought advisable to perform a radical operation because of the extremely anæmic condition of the patient. She had a high fever for several days and

then improved somewhat. On examination the uterus was found to have increased noticeably in size. After vaginal hysterectomy was performed the patient made an uneventful recovery.

The uterus was normal in form and about the size it would be in a one month's pregnancy. The mole was soft and pale in color and in the left cornu of the uterine cavity there was a small irregular mass sprinkled with little vesicles filled with fluid. A little above the internal os there was also a little growth bluish red in color aside from this the mucous membrane seemed normal everywhere else. On section of the body of the uterus the mass was found to extend about to the middle of the muscle.

Microscopic examination of a fragment showed that the muscle fibers were separated to a considerable depth by little molar vesicles. These vesicles were isolated in places grouped in small masses which were separated from one another by extravasated blood or fibrin. They were made up of a vacuolated stroma, often undergoing necrosis and covered superficially with a tolerably regular epithelium. In places the spaces containing the vesicles were lined with endothelium showing that they were vascular cavities. Around the vessels the muscle was discretely infiltrated with migratory syncytial cells.

The little tumor just above the internal os was also made up of a collection of molar vesicles. Around it the muscle was infiltrated with large syncytial masses the nuclei of which in the majority of cases showed retrograde changes.

The tubes were normal. The ovaries contained some little follicular cysts but there was no appreciable hyperplasia of the luteal cells.

This was therefore a typical case of infiltrating hydatidiform mole, it was however probably benign. The vesicles were shown by histological examination to be contained in the uterine vessels the infiltration of the muscles by migratory syncytial cells was discrete resembling that which is observed in normal pregnancy. The nuclei of these elements did not show any karyokinetic figures on the contrary they were undergoing degeneration. When the patient was seen again she was found free from any malignant recurrence.

It is strange in view of the findings in the uterus that the two curettages after the expulsion of the mole did not reveal any suspicious fragments. The author concludes therefore that the vesicles which at that time were buried in the uterine muscle later proliferated so that they appeared superficially in the cavity of the uterus.

XAVIER BENDER.

Raab H. Differential Diagnosis of Myoma, Rich in Cells and Myosarcoma of the Uterus (Zellreiche Myome und Myosarkome des Uterus) Arch f Gynäk 1933 c 389
By Zentralblatt g Gynäk u Geburtsh d Grenzgeb

To make a certain diagnosis as to the malignancy of myoma from histological examination the following points should be taken into consideration

(1) Structure of the muscular tissue and its richness in cells (2) changes in the nuclei (3) division of the nuclei (4) content of intercellular fibrils (hyaline), (5) giant-cells (6) boundaries of the tumor

Other important points are that

1 Rich cell content and limited development of connective tissue cannot settle the diagnosis of myosarcoma since ordinary myoma rich in cells may show the same condition

2 The nucleus in myosarcoma does not show any decided change in form in contrast to that of ordinary myoma.

3 The mere presence of division of nuclei cannot be taken as decisive. It is decisive only if abundant and examination should be directed chiefly to the youngest parts of the tumor that have not yet undergone regressive metamorphosis

4 Hyaline degeneration is more likely to take place in myomata and is perhaps to be regarded as a cicatricial process

5 Giant-cells have a special value in the diagnosis of malignancy. They may appear very rarely in benign myomata but if found they are isolated. They appear in great numbers in myosarcoma and with especial abundance in the boundaries of the hyaline masses

6 Benign tumors show sharply circumscribed boundaries. Myosarcomata do not show a real infiltrating proliferation but a penetration into the lymph vessels. KÖLLER

Dartigue L. Technique of Anterior Colpotomy for Fibromyomectomy (Technique opératoire de la fibromyomectomie transvaginale conservatrice par colpotomie antérieure) *Gaz. d'Hyg. et d'Épid.* 1937. 1157. *Illy Journal of Gynecology*

This conservative operation consists in removing a small subperitoneal sessile or pediculated fibroid from the anterior surface of the uterus by the vaginal route passing through the anterior cul-de-sac of the vagina. According to whether one does or does not open the peritoneum it is called fibromyomectomy by simple or extraperitoneal colpotomy or fibromyomectomy by transperitoneal or vesico-uterine colpotomy or anterior colpo-uterotomy.

After having pulled down the neck of the uterus with two Museux's forceps and inserted a Hegar's metallic bougie in the uterus a transverse semi-circular incision is made on the anterior face of the uterus a little prolonged toward the sides so that there is an opening of 3.5 to 4 cm. A vaginal hysterectomy the bladder and the ureters are dissected with the finger.

At this point a small parietal or pediculated anterior fibroid of the cervix may be removed without opening the peritoneum. This is called fibromyomectomy by extraperitoneal or subperitoneal enucleation.

As soon as the small fibroid comes into view it is caught with a pair of forceps and removed very easily with the aid of the closed point of a pair of curved blunt scissors. If it is a subperitoneal intraperitoneal tumor of considerable size it is well to break it up into two or three fragments.

The fibroid removed the place from which it was removed and the edges of the colpotomy wound should be sutured or the site of the fibroid and the anterior cul-de-sac of the vagina may be merely tamponed with a gauze pad.

If there is a probability of the peritoneum having been opened and the wound bleeds the wound should be opened and if necessary drained in order to avoid an effusion of blood in the peritoneum.

If there are fibroids higher up on the anterior surface or on the body of the uterus the peritoneum should be opened at the vesico-uterine cul-de-sac.

If possible the uterus may be drawn forward through the colpotomy wound but this will not always be possible by any means. If not a long speculum is introduced through the colpotomy wound which reaches into the peritoneal cavity and pushes the bladder up through which opening the fibroid can be seen and felt.

The fibroid is then seized with a pair of forceps if it has a peduncle this is ligated and cut. It is then called abdominal polypectomy by anterior colpotomy. If it is at the site of the uterus is incised with a bistoury the capsule opened and the tumor enucleated. It is then called an abdominal myoma-enucleation by anterior colpotomy. In this case the site of enucleation is sutured the uterus replaced the peritoneum sutured and the vaginal wound repaired.

To facilitate the suturing of the site of enucleation the edges may be seized with small forceps which enables the needle to be passed more easily and prevents the retraction of the uterus.

This operation may be combined with other supplementary ones for example with a curettage a plastic operation or even as in a case of Lejars with a unilateral removal of the adnexa.

It can be seen that this operation is very different from median anterior hysterectomy in which the uterus is opened into the cavity of a greater or less height.

I am sure it only permits of the removal of very small fibroids as large as a nut, or an apricot at the most. But it has the advantage of preserving the patient's uterus and adnexa with men's trust and the possibility of pregnancy and it prevents the opening of the abdomen which is another feature in its favor. J. DEMOY

Schottlander J. The Histological Diagnosis of Neoplasms of the Uterus (Über histologische Geschwülstdiagnostik am Uterus der Gebärmutter) *Arch. f. Gynäk.* 1937. 5. *By Zeitschrift für Gynäkologie und Geburtshilfe Grenzgebiete*

Lubarsch deems the diagnosis of cancer in epithelial new growths justifiable only if a destructive growth can be demonstrated with certainty while the malignancy is determined by the character of the cells. The author emphasizes the contradiction contained in this sentence and

states that the malignancy of epithelial new formations can in most cases be determined by the character of the cells alone without proof of or regard to a destructive growth. He does not contradict the warning contained in the paper of Lubarsch against deductions free from any objections and from faulty histological findings but emphasizes that the requirements which Lubarsch places on the histological examination are too far reaching and would considerably decrease the value of the diagnostic curettage and diagnostic excision. E. 104. GRAFF

Lenormant G. Association of Rectal with Uterovaginal Prolapse (L'association du prolapsus rectal et du prolapsus utéro-vaginal) *Gynecolog* 93 21 31 By Journal de Chirurgie

The association of these two forms of prolapse is merely a coincidence. Rectal prolapse is as rare in women as genital prolapse is frequent.

This coexistence is explained by common factors which favor the development of both such as deficit of the pelvic floor, extreme depth of the cul de sac, retroversion of the uterus and frequent and difficult labor. These causes however are not indispensable because we have rectal prolapse in men and the causes are not sufficient of themselves, since rectal prolapse is rare in women though the perineum is often defective. Something more is necessary to explain these cases. Quénu holds that both rectal and genital prolapse are true perineal hernias, the sac being composed of the vagina or rectum as the case may be, the pressure of the viscera falling on the anterior wall of the rectum or on the retroverted uterus. But the sphincter of the rectum is generally intact so this weight meets the resistance offered by the muscular column of the anus. Its maximum force therefore falls on the rectovaginal septum and causes rectocele which is a stage of rectal prolapse. Another important factor he thinks is the congenitally abnormal length of the mesocolon.

The treatment for serious cases of either form of prolapse in women is hysterocolpexy. The hysterocolpexy should be done directly rather than by means of the round ligaments. The colpexy should be done in the iliac fossa by vertical fixation to the psoas after incision of the peritoneum in the pelvis by transverse suture to the posterior surface of the uterus and broad ligaments. The operation should always be completed by repair of the perineum, contraction of the anal canal and reconstruction of the sphincter. L. CURETTE

Boije Th. Surgical Treatment of Genital Prolapse and Its Results (Über die operative Behandlung von Genitalprolaps mit besonderer Rücksicht auf die Resultate) *Versamml. d. Nord. Chir. Kongr.* Kopenhagen 93

By Zentralbl. f. d. ges. Gynäk. u. G. b. rish. s. d. Grenzgeb.

Boije is of the opinion that a vaginal plastic operation does not give a sufficient guarantee of a good

result in complete or almost complete prolapse especially if a severe atrophy of the tissues of the pelvic floor be present. It must be combined with a firm ventrofixation of the uterus. This procedure should not be used however in young women who might afterwards become pregnant. The high amputation of the cervix is important in the vaginal plastic operation because thereby scars are formed in the pericervical tissues which assist in fixing the uterus—disturbances did not occur during labor after this procedure. Care must be taken that the bladder be pushed far up. Broad and deep scars are formed in the parametria during the process of healing of the lateral vaginal walls.

Of seventy-five cases which were re-examined the uterus loosened and prolapsed in one case only after the patient had passed through three labors following the operation, cystoceles and rectoceles were found in six cases, or eight per cent. insignificant ventral hernias in seven cases. All the patients were subjectively well. S. A. GANSEKORT

Meyer L. The Surgical Treatment of Genital Prolapse and Its Results (Über die operative Behandlung von Genitalprolaps mit besonderer Rücksicht auf die Resultate) *Versamml. d. Nord. Chir. Kongr.* Kopenhagen 93

By Zentralbl. f. d. ges. Gynäk. Geburth. s. d. Grenzgeb.

Meyer strongly opposes Halban's and Tandler's views that prolapsus is a hernia. A prolapse operation is not a herniotomy. He attaches great importance to the retrodeviations as they are frequently the cause of the subjective sensations of weight and pressure which the patients describe as a sensation of falling out. According to Meyer an extensive anterior colporrhaphy and high cervical amputation increase the danger of retrodeviation. It is chiefly on account of this possibility that the anteflexion operations deserve consideration in prolapse. With out doubt ventrofixation is dangerous for women who become pregnant. It is not only unnecessary but even hazardous to isolate the levator muscles in the posterior colporrhaphy. S. A. GANSEKORT

Crosen H. S. The Conservative Operative Treatment of Long Standing Inversion of the Uterus. *Western S. g. Ass. St. Louis* 93 Dec. By S. g. Gynec. & Obst.

The article is a plea for the more general employment of operative measures which restore the inverted uterus to a functioning organ in contrast to measures which sacrifice the uterus. There is given a brief review of the growth of conservative treatment for chronic inversion, a résumé and comparison of the operations, a report of a case in which the Spinnelli method was employed and a presentation of the technique and advantages of the method.

The conservative operative methods are Multiple incisions into the constricting cervical ring (Aran, Sims, Barnes, 1861)

2 Dilatation of the constriction ring by a dilator

introduced through an abdominal incision (Thomas 1896 with incisions, Everke 1899)

3 Dilatation of the constriction ring by a dilator introduced through an incision in the fundus uteri (Brown 1883)

4 Division of the constriction ring and adjacent uterine wall and the cervix posteriorly (Kustner 1893)

5 Complete division of the posterior uterine wall and cervix (Piccoli Morisani 1896)

6 Complete division of the anterior uterine wall and cervix (Spinelli 1900)

7 Division of the constriction ring posteriorly through an abdominal incision (Haultain 1901)

8 Division of the constriction ring anteriorly through an abdominal incision (Dobbin 1905)

In the case reported, of a patient 23 years of age who presented a complete inversion of a year's duration the uterus was restored by the Spinelli method. The bladder was separated from the cervix the vesico uterine peritoneal pouch was opened the inversion ring and vicinity examined and the cervix divided in the median line. The division extended up through the constriction ring and down the anterior surface of the inverted uterus to the fundus. As the incision was extended down the corpus uteri attempts were made at various stages to replace the uterus but without success until the incision had been extended to the fundus, when the mucous surface was turned in and the peritoneal surface out. The excess of infiltrated corpus uteri was then trimmed away until the peritoneal edges of the uterine incision could be approximated. The uterine incision was then closed by deep and superficial sutures and the vaginal wound sutured free drainage being employed. The patient recovered promptly. Menstruation began in two months and has been normal since (8 months) the patient feels well and examination shows the pelvic organs to be practically normal.

The advantages of this method are as follows:

1 Being vaginal it minimizes the amount of peritoneal contamination a most important consideration when dealing with an infected structure.

2 As the reposition is accomplished by incision there is not the bruising and perforation of the friable uterine wall which has so often accompanied attempted reposition by dilatation of the constriction ring.

3 Division of the anterior uterine wall is preferable to division of the posterior wall because the work is thus more easily and accurately accomplished. The anterior uterine wall and anterior fornix lie toward the operator, hence are less deeply situated and more easily reached. Again when the operation is anterior the bladder may be lifted away giving a wide space for investigation of the inversion funnel and of the various pelvic structures and also more room for the operative manipulations of incision reposition, and suturing. Again if there is a marked backward tendency effective forward fastening of the uterus may be carried out through

the anterior incision. Again, a suture line on the posterior surface of the uterine wall, extending to the fundus is more likely to form troublesome adhesions to the intestines leading to obstruction or to the posterior pelvic wall, leading to adherent retrodisplacement.

The points in favor of the posterior incision are that it eliminates the extra opening for drainage and that the sacro-uterine ligaments may be more conveniently shortened. But these minor advantages of the posterior incision are outweighed by the more important advantages of the anterior incision.

Schmitz H: A Modification of Webster's Endoperitoneal Shortening of the Round Ligaments. *Surg Gynec & Obst* 1913 xvi 63

By Surg Gynec & Obst

The author dwells on the advantages and disadvantages of Webster's and Allien's intra abdominal round ligament operations. He describes and illustrates his modification which he has already employed in a few cases. An incision is made in the mesometrium enclosing the round ligament and the latter is divided and loosened down to the internal abdominal ring. A ligature is applied to the distal end which is carried by the aid of a Barrett ligature carrier between the folds of the broad ligament underneath the utero ovarian ligament and brought carefully between the posterior wall of the uterus and its serous covering. The same procedure is repeated on the opposite side. The two ligatures are brought out into the abdominal cavity through a small perforation in the posterior peritoneal coat of the uterus and tied a few interrupted chromic catgut stitches firmly secure the round ligaments to the myometrium. The proximal portion is now stitched to the distal portion so that the round ligament assumes the shape of the letter Y.

The advantages claimed are (1) The ligaments remain entirely extraperitoneal (2) the operation depends for its success on the mucocommural attachment, (3) the method retains the strongest portion of the round ligament for its functional use.

Farrar L. K. Hernia of the Uterus and Both Adnexæ. *Surg Gynec & Obst* 93, xvii 586

By Surg Gynec & Obst

The author gives a summary of cases, from literature of hernia of one adnexa and hernia of the uterus and one adnexa, and then describes in detail hernia of the uterus and both adnexæ citing two typical cases a d adding one case occurring in her own practice. The patient aged 33 had had five children in easy labors. Early in her second pregnancy she acquired a left inguinal hernia, which was reducible until 4 weeks after her fifth confinement. Five weeks later she was seen by the writer who made the diagnosis, after a combined external and vaginal examination of hernia of the uterus and both adnexæ. She was operated upon and the uterus and both adnexæ were found to be in the left inguinal canal and in normal condition. Reduction of the

organs was easily accomplished and the wound closed by Bassini's method. The patient made a complete recovery and has had one child since with no return of the hernia.

There is no single cause of hernia of the genitalia but several factors together favor its formation the canal is probably always of congenital origin and in cases occurring in infancy there is commonly malformation or displacement of the genital organs. Intra-abdominal pressure or contraction of the round ligament causes the adnexa to enter the hernial ring. In adult life numerous pregnancies or a previous hernia of intestine and early rising after labor with severe abdominal work are the common causes. The theories are advanced that in some instances the broad ligament by an adhesion to the internal ring may be the origin of the hernia as in hernia of the intestine per glissement and that when the intestine and the ovary are adherent to one another in the hernial sac the ovary has preceded the intestine into the canal.

Whitehouse B. Menstrual Pain. *Universal M Rec* 19 3 1 385 By Surg. Gynec. & Obst.

The author objects to the old classification which takes it for granted that the source of menstrual pain resides in the uterus. He believes that the relationship between the ovary and severe menstrual pain is very close. He mentions a case where the routine treatment for dysmenorrhea extending over a period of several years failed him and he finally decided to remove the uterus and its appendages. The right ovary contained a large calculus of phosphate and carbonate of lime the size of a large cherry.

His second case was a woman of 40 who had always suffered from painful menstruation the pain was located in the hypogastric region and was aggravated if the bladder and rectum were full. He performed a hysterectomy with the removal of both uterine appendages. There was little pathology in the uterus except the typical menstruating endometrium due to the fact that he had operated on the first day of the menstrual period the tubes were slightly congested but otherwise normal. The left ovary measured $1\frac{1}{2}$ by $\frac{3}{4}$ by 1 inch and showed extensive hemorrhagic condition of the stroma and an immense number of petechial or punctiform hemorrhagic points. The right organ showed a similar condition in a less advanced degree. The hemorrhage appeared to be both recent and remote. The troma presented dilated capillary vessels, but the majority of the red cells occupied an extravascular position and were lying free amongst the stroma cells. The older hemorrhages showed various stages of organization. The tunica albuginea of both ovaries was thickened.

The third case was that of a woman 30 years of age. In early life her periods had been painful and the pain had gradually increased in severity until she asked for surgical relief in order to be self supporting. A hysterectomy and double salpingo-

oophorectomy was finally decided upon. The uterus itself showed no pathology except that the os externum was decidedly patulous the ovaries however presented a fairly typical appearance described as cirrhosis.

The last case mentioned showed on pelvic examination that the uterus was perfectly normal but there was a rounded tender swelling in each posterior quadrant. A laparotomy showed that each ovary was the seat of a blood cyst about the size of a tangerine orange containing thick coffee-colored fluid.

In treating dysmenorrhea the author advises making a pelvic and rectal examination during the height of the attack. If the cause is ovarian the affected organ will be extremely tender.

In the treatment if the routine measures fail to modify the dysmenorrhea, he believes that there should be a lookout for an ovarian origin and if necessary do an exploratory laparotomy in cirrhosis of the ovary he calls attention to ovarian grafting.

The author summarizes his remarks as follows:

1 The uterus is not always the seat of menstrual pain.

2 The cause of pain is frequently in the ovary and may be due to cirrhosis, hæmatoma, calculus or adhesions.

3 Diagnosis may be cleared by a pelvic examination during the height of the attack.

4 If the ovary is the site of the pain, cervical dilatation is contra-indicated. If mechanical and local measures have failed, celiotomy may be performed and the ovary explored.

5 If ovarian cirrhosis is present, ovarian grafting may be employed rather than double oophorectomy or total hysterectomy.

6 The term dysmenorrhea should be discontinued if it implies a symptom not a condition.

7 If classification is required, divide cases of menstrual pain into ovarian, uterine and nervous.

ROBERT T. GILLMORE.

Carstens J. H.: Dysmenorrhea. *N. Y. St. J. Med* 913 Jan 6 By Surg. Gynec. & Obst.

The author believes that our modern methods of living are largely responsible for dysmenorrhea. So many girls are doing severe mental work and hard mental work and poor nourishment prevent the development of the pelvic organs hence infantile uterus and dysmenorrhea result. In older women who must earn their living there is often premature atrophy of the uterus.

In cases where there is no disease of the tubes and ovaries or no adhesions the author uses a silver stem pessary. The uterus may be cured first if the mucous membrane is diseased otherwise not. The patient must in every case be surgically prepared and placed under an anæsthetic. He has seen some patients wear these pessaries for years. In carefully selected cases this treatment generally relieves all symptoms.

C. H. DAVIS.



Fig. 1 (Froust and Mourer) Ligature of the right internal iliac artery. Section of the utero-ovarian ligament. The external iliac is held by slight traction on the clamps and the grooved director is going up on the vessel in search of the ureter.

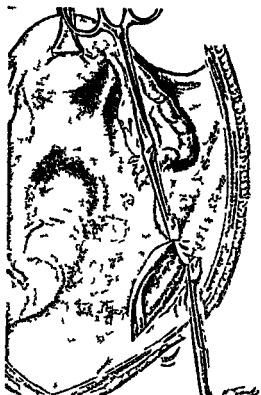


Fig. 2 (Froust and Mourer) Ligature of the right internal iliac artery. The ureter is raised with the internal iliac of peritoneum.

Fabre: External Hysterography (Esterne Hystero-graphie). *J. Inter. et Cong. Med. Lond.* 1903 Aug. 13; Zentralbl. f. d. Gynäk. u. G. Geburtsh. u. Grenzgeb.

The author uses the word hysterography to designate a method of automatic registration of the uterine contractions during birth. He calls it external hysterography when the apparatus is applied to the abdominal wall. The contraction of the uterus depends on the expulsive force of the uterine muscles and hysterography gives more information as to the nature and variations of this force than palpation, chronometry or the subject's feeling of the patient. He gives a description of the apparatus which consists of a metal plate with an indicator attached to Marey's drum and two rotating cylinders.

The advantages of the hysterographic method are that (1) it can be used at any time during pregnancy, labor or the puerperium without danger (2) the respiration and movements of the fetus do not alter the curve (3) the apparatus does not provoke abdominal pains and is easily worn.

The author's conclusions are as follows:

1. Hysterography gives information regarding to

the physiological force of the labor pains and also the effect of various forms of medication.

2. Small doses of chloral hydrate stop pains during pregnancy and regulate labor pains.

3. Small doses of sugar, pituitrin and ergotin stimulate pains.

4. Morphine lessens the intensity of abnormally strong pains; scopolamine decreases the effectiveness of the pains.

5. Chloroform inhalation weakens the pains to a very slight degree.

The importance of ether inhalation here lies in its effect on the intensity of the pains. Under the control of the hysterograph a combination of chloral hydrate, ether and morphine can be used to decrease the pain without diminishing the expulsive force of the pains and without endangering the child's life.

Froust R. and Mourer A. Ligature of the Internal Iliac Artery in Total Abdominal Hysterectomy for Cancer (Ligature de l'artère hypogastrique dans l'hystérectomie abdominale élargie pour cancer). *J. d. chir.* 1903 xi 4.

By S. G. Gyner & Obst.

Whether or not it is advisable to ligate the internal iliac artery as a preliminary step in total abdominal

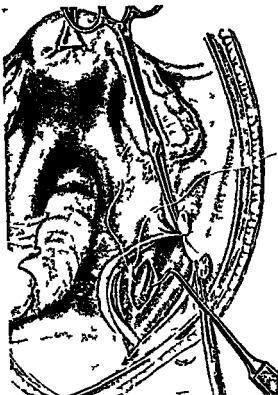


Fig 3 (Proust and Meurer) Ligation of the right internal iliac. The ureter is held internal to the internal iliac. The sheath of the vessel is open and the aneurysm needle passed from without in.

hysterectomy for cancer is still a disputed question. The authors, having first discovered its utility in stout patients, have been led to its adoption as a routine measure.

Three conditions are necessary for its proper execution, viz:

1. The artery should be tied external to the ureter.
2. The artery should be tied at the upper extremity of the principal peritoneal incision.
3. The artery should be tied at not more than 3 cm. from its origin.

In the anatomical studies Proust and Meurer have found that the point of crossing of the artery by the ureter varies according to the height at which the common iliac divides. On the right it may cross proximal to the bifurcation or may cross the external iliac at varying distances from the bifurcation. On the left it may cross proximally or at the bifurcation or the external iliac. On the left side, if the pelvic colon is so short as to embarrass the operator, it is freed from the peritoneum sufficiently to make the operation easy. The authors technique follows.

After a long incision through the abdominal wall



Fig 4 (Proust and Meurer) Ligation of the left internal iliac. The ligament of the sigmoid is short and situated low down.

from the symphysis past the umbilicus, each iliac fossa is well exposed to its superior border. The fundus of the uterus is pulled forward and the ligation of the right internal iliac undertaken.

The infundibulopelvic ligament is put on stretch and the utero-ovarian vessels identified and cut between clamps as they cross the upper part of the field. Slight traction on the external clamp bares the external iliac artery. Following this artery upward the ureter is generally encountered before the bifurcation is reached. It is raised with the internal leaf of pantoneum without isolating it from its coverings and the incision in the peritoneum continued until the bifurcation is plainly visible. After carefully raising the covering of the internal iliac and exposing the external and internal iliac vein, the internal iliac is ligated within 2 cm. of its origin, the aneurysm needle carrying the ligature being passed in from without. After the ligation of the internal iliac the peritoneal incision is prolonged toward the round ligament which is cut. Next always keeping external to the ureter the uterine artery is exposed and cut between clamps. The



Fig. 5 (Proust and Meyer) Ligation of the left internal iliac. Showing the two layers of retrocolic fascia with the two-ovarian ligament sutured and the posterior layer of fascia sutured. The ureter is seen at the upper angle of the incision.

central end of the uterine is ligated the peripheral end raised with the superior part of the parametrium and the ureter exposed throughout its course to the bladder.

Ligation of the internal iliac artery on the left side is done as follows:

The sigmoid is first examined and even if only moderately short loosened from its parietal attachment and the distal both the ligation of the artery and the distal peritonization of the wound by the lower incision and upward in order to expose as well as possible the internal iliac artery root of the mesocolon. The large incision through the peritoneum is now made by the right hand of this incision is parallel and close to the internal iliac vessels. The left hand is pulled laterally to the descending colon lig.

This incision is made with the bleeding with the aid of curved scissors and the colon sigmoid angle loosened. The distal end as a whole are next drawn forward to the right the utero-



Fig. 6 (Proust and Meyer) Ligation of the left internal iliac. The sheath of the artery is open the artery ligated from within out.

ovarian pedicle cut at its superior attachment and the deep layer of retrocolic fascia incised along the external iliac artery (Fig. 6). The bifurcation of the common iliac is generally reached before the ureter comes into view. If the internal border of the common iliac be followed upward the ureter is easily identified and raised with the covering in the outer leaf of peritoneum as on the right side. The internal iliac is then easily seen and it is only necessary to raise the uterus uterine tube outward to expose the bifurcation of the artery. The internal iliac next to the bifurcation is examined and after opening the bifurcation it is ligated in a similar manner to that of the right. The incision external to the ureter when prolonged permits as on the right the exposure of the broad ligament through the ligament of the uterine artery and the removal of the parametrium.

The authors again emphasize the fact that the preliminary ligation of both internal iliac arteries makes the procedure much less difficult. The dissection of the parametrium for both uterine arteries with sacrospinous ligaments are included in secondary ligation the latter in two steps.

following the technique of Lécène. The advantages of the authors' technique are best realized in the dissection of the peritoneum in the pouch of Douglas, as the ureters are plainly visible and the dissection is practically bloodless. Before opening the vagina the authors follow the technique of Bumm, always clamping before cutting and securing cut-surfaces with secondary sutures to insure perfect hæmorrhage.

Since November 1910, Proust and Maurer have performed this bilateral ligation of the internal iliacs eight times. One case in which a resection of bladder wall was necessary because of cancerous infiltration had a fatal outcome. The remaining seven cases recovered and the operation was so facilitated by the preliminary ligation of the internal iliacs that the authors are convinced the procedure should become more general. **ELLEN FISCHER.**

Bland Sutton J: *The Visceral Complications Met with in Hysterectomy for Fibroids and the Best Methods of Dealing with Them*. *Brit M J* 913: 1: 30. By Surg. Gynec. & Obst.

The author calls attention to the conditions on the borderland of medicine and surgery and speaks of the effects of fibroids on the circulation, the thyroid gland, the renal organs, and the serious responsibility of operating when diabetes or cardiac lesions are present. He believes that all patients suffering from fibroids should have a careful medical examination before passing into the hands of the surgeon.

In patients having valvular murmurs with satisfactory compensation, the removal of the uterus containing a large fibroid will sometimes relieve an embarrassed heart. Fibroids are frequently associated with valvular lesions, especially those which result from rheumatic fever, also in many women where a submucous fibroid has caused a profound anemia, a loud murmur will be heard on auscultation and a careful examination will show a satisfactory compensation. As enlargement of the heart may be caused by the extra work incident to the presence of a large fibroid, the author believes that some of the deaths which are attributed to pulmonary embolism occur in women who suffer with a chronic but unrecognized heart disease. Recorded statistics indicate that one per cent of women who undergo abdominal hysterectomy for fibroids die of a fatal post-operative pulmonary embolism, which he believes is often due to the excessive use of buried sutures for closing the incision in the abdominal wall.

On three occasions the author has removed uteri containing fibroids from patients suffering with goiter, followed six months afterward by a decrease in the goitrous thyroids. A fatal case in which the patient died 56 hours after operation confirms his opinion that women suffering from a well marked exophthalmic goiter are bad subjects for any surgical procedure.

As a rule, diabetes is a contra-indication for hys-

terectomy, especially so in young women. All evidence tends to show that there is some relation between the hypophysis and the genital glands. In acromegalic women menstruation is suppressed and the urine contains sugar. Experimental evidence tends to prove that there is a temporary enlargement of the hypophysis during pregnancy.

A large submucous fibroid produces similar changes in the uterus to those set up by the growth of the foetus, associated with sugar in the urine.

Women suffering from large cervical fibroids frequently have albumin in their urine, which disappears after operation. A systematic examination of urine within 36 hours after pelvic operation showed in nearly all cases the colon bacillus. The author is unable to explain why this is so, as is the obstetrical physician unable to give an opinion as to why the urinary system is invaded by the colon bacillus in the pyelonephritis of pregnancy. After the operation, should the bladder remain empty, injury to both ureters should be suspected. When an injury has occurred to the ureter during the operation, the surgeon should attempt to anastomose the cut ends. If he fails in this, he should implant the proximal end in the bladder wall, notwithstanding that the urologists insist that when this is done it becomes sclerosed by chronic urethritis, which narrows and finally obliterates the lumen. After citing several remarkable cases, the author states that it is possible that a ureter has been tied in the course of a hysterectomy and the patient has recovered without anyone having a suspicion that such an accident has happened.

Intestinal adhesions are rare unless there has been an infection of the uterus or fallopian tubes. There may be a complication of cancer of the intestines and in such cases he completes the hysterectomy and then excises the cancer and does an end-to-end anastomosis if the patient's condition justifies it. If not, a secondary operation must be done. Often times a differentiation between fibroid and cancer of the colon is very difficult.

There is frequent coincidence between uterine fibroids and gall stones without any direct relations. When both conditions exist and there is evidence that there is an impacted stone in the common duct, the stone should be removed first, because of the perilous post-operative hæmorrhage caused by cholemia, the secondary operation to be done when the patient has recovered from her cholemia.

ROBERT T. GILLMORE.

Beuttner: *Transverse Excision of a Wedge from the Fundus of the Uterus Preceding Bilateral Extirpation of the Adnexa to Maintain Menstruation* (Die transverse fundale Keilexcision des Uterus als Vorakt zur Exstirpation doppelseitig erkrankter Adnexe mit Erhaltung der Menstruation). *T. I. Intern. Cong. Med. London 1913 Aug.* By Zentralbl. f. d. Ges. Gynäk. Geburtsh. u. d. Grenzgeb.

This method is based on the principle enunciated by Fauré that operation on the adnexa should be

from the middle toward the pelvic walls and from below upward. A transverse wedge-shaped excision is made from the fundus of the uterus after preliminary ligation to prevent hemorrhage. The excised wedge is split in the middle and each piece freed from the corresponding broad ligament by one incision with the scissors after which the wound which extends to the uterine cavity is sutured. First the left and then the right adnexa are removed from below upward and from within outward and the broad ligament is sutured. The parietal peritoneum of the anterior abdominal wall is then sutured to the upper posterior wall of the uterus from left to right just back of the sutured uterine wound which is thus to a certain degree brought outside the peritoneum and the uterus which is often found in fixed retroflexion is brought into a position of permanent moderate flexion. The advantages of the method are that it insures the maintenance of the most useful flexion and obviates the possibility of hysterectomy. The results are that menstrual flow less appears and the menstrial flow becomes normal in amount and duration.

ADNEXAL AND PERIUTERINE CONDITIONS

Case no. J H. A Seven Pound Ovarian Tumor That Developed in Nine Days. *Am J Obs. & Gyn.* 1913 Jan. 5 By J. R. Gynec. & Obst.

Under the above caption Carrington relates the history and operation findings of a case of a simple cyst of the ovary which was operated upon by him nine days after the patient noticed abdominal enlargement. The patient, 36 years of age who never had been ill awake one morning to find that her abdomen had enlarged overnight. The swelling rapidly increased in size and the patient began to have symptoms of infection no other symptom being noted. An ovarian cyst with twisted pedicle and infected contents was removed by the author who believes that the cyst was really of longer duration and that previously it lay in the true pelvis, but outgrowing its bed it was delivered overnight into the abdomen and that twisting of its pedicle explains its further rapidity of growth and its infection. The history of the patient followed the operation.

Poster M. F. Sarcoma of the Ovary. *The New Surg.* 411 1913 Dec. By S. R. Gynec. & Obst.

The author based his conclusions upon a comprehensive study of the literature in which 36 cases found reported in his literature together with three cases of the author making 39 in all. Many sarcomata of the ovary have been overlooked in the past because of incomplete microscopic study and for the same reason many tumors of the ovary were classified as sarcomata which in reality were not sarcomata. Allowing the percentages of 16 observers covering over 1000 cases of ovarian tumor we find the percentage of sarcomata to all other tumors to be 5.08 per cent. About 20 per cent of all

ovarian tumors are malignant and about 5 per cent are sarcomatous. Contrary to the rule sarcoma of the ovary frequently involves both organs. This double involvement occurs in about 20 per cent of cases and the growth is usually rapid. Sarcomata of the ovary on palpation are found in the majority of the cases to be solid or semi-solid. The ascites in connection with ovarian tumor indicates malignancy but not the character of malignancy nor does the ascites mean that the disease involves the peritoneum.

Sarcomatous tissue is often found in dermoids, and about 10 or 12 cases of carcinosarcoma of the ovary have been reported. Round-cell sarcoma are more common in the young and spindle cell more common in adults. There is great difficulty in classifying malignant tumors of the ovary and the diagnosis is seldom made sure at operation or post-mortem. A close study of each case in the light of our present knowledge will make it possible to make the diagnosis often in the future than in the past. Rapidity of growth from the beginning and rapid growth in a tumor that has been stationary for a long time raises the suspicion of sarcoma.

Pain is a prominent symptom in more than one third of the cases. Disturbances of menstruation are more common in malignant than in non-malignant tumors especially in the case of sarcomatous. The mortality of the operation is much higher in children than in adults. The ultimate prognosis seems the best in fibrosarcoma although a permanent cure can be expected only in about 10 per cent of all cases however even in desperate cases the results of the operation are sometimes surprising. Seeligman reports the successful treatment of a case of metastasis in the spinal cord by X-rays and by arsenic injected intravenously. One case of cure lasting over a period of two years is reported as follows: Operation and subsequent administration of Coley's Fluid.

Kudoji H. Treatment of Dermoid Cysts of the Ovary (*Ueber die Behandlung der Ovarialdermoide*). *Zeitschrift f. Geburtsh. u. Gyn.* 1913 Aug.

By Zentr. f. d. pr. Gyn. u. Geburtsh. u. Gyn. u. Gyn.

The author gives a thorough review of the literature of the subject with a detailed report of five cases of his own giving results of microscopic examination. Dermoids of the ovary consist of three germinal layers were found in the preparations. Kudoji is opposed to the theory of misplaced skin elements and also to Handers theory of ectodermal invagination and believes that dermoids of the ovary originate in fertilized ova.

Pollakow A. and Villet H. Cysts of the Ovary Due to Tuberculosis (Les proliférations tuberculeuses de l'ovaire). *Ann. Chir. 1913* 140 By Journ. de Chirurgie

In addition to the classical type of tuberculosis of the adnexa which is certainly a very frequent

Pollosson and Violet have described an inflammatory tuberculosis of the adnexa the most important types of which are primary hydrosalpinx and microcystic ovary

They endeavor in this work to confirm clinically the existence of such a condition of the ovary and there are three kinds of cases on which they base their conclusions

In the first place there are the cysts of the ovary which are met with in the course of the development of follicular tuberculosis of the tube or peritoneum Sometimes these are small multiple cysts sometimes they are cysts as large as an orange an infant's head or even an adult's head In one of their cases there was a cyst containing two quarts of a bloody serous fluid located on a tube which was very evidently tubercular

In the second class of cases there are polycystic ovaries or large serous cysts of the broad ligament associated with old tubal or peritoneal tubercular lesions which are now latent but have left peritoneal adhesions or caseous deposits in the tubes

The third class of cases are more numerous but less evident Here the ovarian cysts are not accompanied by any visible tubercular lesions but preceding events or their final development make the existence of a tubercular intoxication probable They report several cases in young women in rather poor health, with irregular menstruation Bloody cysts of the corpus luteum of varying sizes were removed and afterwards they recurred in conjunction with pulmonary or genital tuberculosis

The anatomical type of these tubercular cysts is variable they may take the form of a microcystic oöphoritis there may be a large number of serous or bloody cysts unilocular or multilocular there may be follicular cysts or cysts of the corpus luteum Clinically they differ from neoplastic cysts in that they may disappear from absorption of their contents or from rupture

The symptoms are those of chronic oöphoritis irregularities of menstruation generally in the direction of retardation diminution of the flow and from time to time prolonged metrorrhagia intermenstrual or premenstrual pain and stenility frequently associated with an exaggeration of the sexual instinct The latter symptom is frequently observed in animals and is considered by veterinarians as a precursor of tuberculosis

CH LENOIRANT

Jayle F Tubercular Salpingitis (La tuberculose de la trompe) *Pre méd* 93 xx 503
by Journal de Chirurg

Tuberculosis of the tubes is more frequent than it is generally believed to be It is often incorrectly diagnosed because it is masked by simultaneous infection with ordinary bacilli gonococci streptococci colon bacilli, tetragens etc Jayle divides tubercular salpingitis into two great classes (1) Pure tubercular salpingitis, and (2) tubercular salpingitis associated with some other infection

Pure tubercular salpingitis may be divided into four varieties (A) Miliary granular tuberculosis of the peritoneum with ascites, (b) pyogenic tuberculosis (c) lardaceous tuberculosis, and (d) polymorphous tuberculosis pyogenic and granular or pyogenic and lardaceous

When tuberculosis is complicated by another infection the tubercular process may be primary or secondary The pyogenic form is the most predisposed to secondary infection Tubercular abscesses within or near the tubes are very easily invaded by ordinary infectious micro-organisms The infection may be through the intestines the genital tract or the blood Where it takes place from the intestine it is generally colon bacilli when through the genital tract it is gonococcus streptococcus or staphylococcus

The only way of establishing the diagnosis with certainty is by histologic examination The only form that can be easily diagnosed clinically is the granular form with ascites

Treatment should always be surgical Jayle is so thoroughly convinced of the superiority of the conservative operation that in girls and young women he always spares the uterus and ovaries, even when the lesions are very extensive and preserves menstruation The results of his operations have justified him in this course All his patients have not only completely recovered but menstruation has been maintained They have not had any general trophic disturbances or any genital symptoms and several of them have married

J DUMONT

EXTERNAL GENITALIA

Wade H A Description of a New Method of Repair for Vaginal Hernia with a Report of 140 Cases in Which It Was Used *Med Rec* 913 lxxx 937 By S R Gynec & Obst

The author has followed up 140 cases upon whom he had performed his operation for repair of the perineum and in none of them has he found a failure

The technique of the operation is as follows

1 After surgical preparation and after the patient is anesthetized and catheterized the field of operation is painted with a 50 per cent solution of tincture of iodine

2 An incision is made at the lateral mucocutaneous junction of the posterior aspect of the vaginal outlet The same position is maintained on the opposite side of the vaginal outlet and with little traction a curved incision is made with the convexity directed toward the anus The flap of vaginal mucous membrane is then dissected upward and allowed to remain Lateral dissection is carried out with the fingers until the firm fascial layer is found and these layers of fascia are brought together with a continuous suture of No 2 chromic gut The superficial fascia is united with the same

mine whether the genital tuberculosis was primary. The author believes it was primary in 4 cases. In the others the disease seemed to be primary elsewhere especially in the lungs and spleen. When the cyst itself is invaded this is always secondary.

As to the influence exerted on the growth of the tumor and by the tumor on the localization of the tubercles it is almost certain that tuberculosis provokes a certain degree of growth in these tumors particularly in the ovarian cysts, this however is not so probable with the fibroids. On the other hand it is believed that the presence of a tumor predisposes to genital tuberculosis a conclusion based on certain observations but at present not directly proven. A BAKER

Schmidt O. The Surgical Treatment of Peritoneal and Genital Tuberculosis (Die operative Behandlung der Peritoneal und Genitaltuberkulose). *Ztschr f Geburtsh u Gynäk* 93 1913 404.

By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb. The author believes that general peritoneal tuberculosis originates just as frequently from genital tuberculosis as infections of the genitals from the peritoneum. Primary isolated ovarian tuberculosis is very rare according to his experience. The palpation of nodules in Douglas pouch is not a diagnostic proof. The subcutaneous tuberculin reaction the ophthalmic and von Pirquet reactions are uncertain means of diagnosis. Based on 37 cases operated during the last 12 years with 12 deaths he recommends operation for the majority of cases especially as he saw a more or less complete regression of the tuberculosis in 3 relaparotomies. The method of procedure must be based on the findings. A systematic sanitarium treatment is absolutely required in conjunction with the surgical procedure. ESERLE

Opitz E. The Relations of Inflammatory Conditions of the Colon to the Female Genitalia and to Functional Neuroses (Einiges über Beziehungen von Entzündungen des Dickdarms zu den weiblichen Geschlechtsstelen und zu funktionellen Neurosen). *Ztschr f Geburtsh u Gynäk* 1913 1313 362.

By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb. Opitz observed a case of acute typhlitis during pregnancy with symptoms identical with those of acute appendicitis. The diagnosis was made only on operation. The labor pain contractions were definitely influenced though the presence of an extensive peritonitis did not involve the uterus. Opitz recommends in such cases the operative emptying of the uterus followed immediately by laparotomy for the appendicitis.

The author believes that such genuine appendicitis cases are undoubtedly more common than is supposed. In most cases a differential diagnosis will be impossible. An important fact however is that in typhlitis the leucocyte count will remain much lower and the differential count will not show an increase in the polymorphonuclear cells at the expense of the

mononuclear. The chronic appendicitis so common in young women is better known.

Inflammations analogous to those occurring in the appendix may take place in any part of the colon especially in the ascending colon in the flexures and in the sigmoid. Sigmoiditis is especially important to the gynecologist. Many vague symptoms referable to the lower abdomen are due to chronic colitis and not to perimetritis and perisalpingo-oophoritis. Before making a diagnosis of neurasthenia or hysteria it is important to make a thorough physical examination and exclude all organic causes. The involvement of the internal genitalia from the colon is much more common than is generally supposed. HAYNES

Graves W P. Relationship Between Gynecological and Neurological Diseases. *Boston M & S J* 1913 clux 557. By Journal de Chirurgie

Various gynecological disorders are discussed by the author and an attempt is made to determine their relation to nervous disorders. Menstruation is first described fully as regards the general physical and mental changes which take place in woman at that time. There seems to be a gradual storing up of energy in the period preceding the menstrual flow which reaches its maximum just before the menstrual period and suffers a marked drop at the time of the period and immediately following it. During the period the mental condition of the woman becomes hypersensitive.

Of the menstrual irregularities which are especially apt to produce neuroses dysmenorrhea is by far the most important. In the majority of cases this condition has a definite anatomic basis and operative procedure is indicated in most of these cases. Many of them, however cannot be treated successfully by the ordinary operative measures and hysterectomy with castration may even be necessary.

Where there is a nervous disease as the primary condition we often find the symptoms greatly exaggerated during the catamenial period. Most crimes committed by women are done during the menstrual period. Most of the women suicides are menstruating or are in the climacteric. Among the women inmates of insane asylums the particular symptoms are apt to become exaggerated during the menstrual period. As regards the relief of insanity by gynecological operations where diseased conditions are found in the pelvis there seems to be a variance of opinion. Some authorities claim a large percentage of recoveries from such procedures while others are very dubious about the results.

The relation between neuroses and the artificially produced menopause is of great importance and the author has gone to some length to determine what nervous disturbances if any are commonly produced by removal of both ovaries. He arrives at the conclusion that patients do not suffer from hot flashes so much as during the natural menopause and that as a rule the patients are less nervous than before the operation for pelvic disease.

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Outerbridge, G W. Decidual Reaction in the Appendix in Intra Uterine Pregnancy. *J Am Med Ass* 1913 12, 1702. By Surg. Gynec. & Obst.

After a brief introduction, the author reports the case of a woman aged 37 who was delivered of a full term living child. During labor she complained of excessive pain and her abdomen was tender. Ten hours after delivery the abdomen was enormously distended and the patient vomited large quantities of stercoraceous material. At operation the appendix appeared acutely inflamed and there was considerable free pus in the abdominal cavity. The patient died the next morning and no necropsy was performed. Microscopical examination of the appendix showed numerous groups of large, polygonal cells scattered throughout the greatly thickened subperitoneal tissue. The situation of these cells stamps them as having arisen from the connective tissue cells of the thickened stroma of the serosa. Nowhere did they show a tendency to spread out in a sheet immediately beneath the surface, as would surely be the case had they arisen from the surface of the endothelium.

The author concludes the paper with a discussion as to the probable cause or explanation of the presence of decidual tissue in the appendix. A second case is cited, of a woman aged 22 who was operated on for an acute appendiceal attack during the sixth month of pregnancy. The same characteristic cells were found but not quite so numerous as in the other case. The patient recovered without disturbance of the pregnancy.

EDWARD L. CORNELL

Unterberger, F. Pregnancy in Both Tubes at Once (Gleichzeitige Schwangerschaft beider Tuben). *Monatssch f Geburtsh u Gynäk* 1913 23, 47. By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb.

Pregnancy in both tubes simultaneously is very seldom observed in contrast to tubal pregnancies which frequently occur first in one tube and later in the other. Extra uterine and intra-uterine pregnancy occurring at the same time has seldom been noted as also the implanting of two ova in one tube. Thus far only 16 cases of simultaneous pregnancy in both tubes have been reported, one of them being a case in which there was one foetus, with a placenta in one tube and two foetuses, with one placenta, in the other. The author says the diagnosis of bilateral tubal pregnancy is certain if chorionic villi that will take a stain readily are found in both tubes. It is not possible that one tube could have become pregnant the ovum died and then the other one have been impregnated because about six months

after the termination of a tubal pregnancy the chorionic villi can no longer be demonstrated. Moreover superfetation is improbable because generally after the beginning of pregnancy ovulation ceases.

The author describes his own case. A thirty year-old woman who had had one child and menstruated regularly afterwards. After six weeks cessation of menstruation she had severe pain in the left side of the abdomen and fainting attacks. 8 days later a similar attack followed by diffuse pain. On operation a left sided tubal abortion was found which had led to the formation of a retro-uterine hematocoele the size of a child's head. On the right there was a tubal rupture with a small peritubal hematocoele which was distinctly separated from the one on the left. Extirpation of both tubes was done the right ovary being left in position. The recovery of the patient followed the operation.

RATH

Von Schrenk, A.: Uterine Myomata and Pregnancy (Über Uterusmyom und Schwangerschaft). *Fortschr med Wiss* 1913 2, 120. By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb.

Pregnancy in a myomatous uterus is of frequent occurrence. The influence of a myoma on conception, pregnancy, labor, and the puerperium varies with the location of the growth. Large subserous tumors very rarely cause a hindrance to conception. On the contrary intramural submucous and cervical myomata are much more active in this respect. The diagnosis of myoma and pregnancy may be difficult at times impossible during the early period of pregnancy.

An increase in the size of the tumor almost always takes place during pregnancy and is due in part to an oedematous infiltration and in part to a hyperplasia and hypertrophy of the muscle fibers. A change in form characterized by a flattening thereof is typical. Necrosis as a result of axial rotation of the myomatous gravid uterus or compression of the blood vessels or syphilitic disease of the vessels is rare during pregnancy.

The frequency of necrosis of the myoma during pregnancy grows with the increasing age of the patient. It is relatively frequently seen during the puerperium, a marked decrease in size of the myoma takes place as a rule, post partum. Cervical myomata most frequently cause disturbances during labor. The simultaneous occurrence of myomata and pregnancy is not an indication for active interference, complications alone require active treatment. Eucleation of the tumor or extirpation of the uterus are to be considered during the early

months of pregnancy caesarean section myomectomy eventually hysterectomy at the termination of pregnancy
JAEGER

Sellheim II Tuberculosis and Pregnancy (Tuberkulose und Schwangerschaft) *Tuberculosis*

93 221 277
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

In considering the relation between tuberculosis and pregnancy the following facts should be borne in mind. Non pregnant women with active tuberculosis should not be allowed to become pregnant at least not until the tuberculosis has been rendered inactive. In pregnant women with active tuberculosis, abortion should be performed as early as possible and further pregnancy prevented until the tuberculosis has been rendered inactive. Patients with inactive tuberculosis should be very cautious about undertaking childbearing because there is great danger of lighting up a stationary tuberculous focus. If a woman become pregnant under such circumstances she should be treated prophylactically she should be placed under the most favorable conditions and treated as if the reactivation had already taken place. Women with active tuberculosis should not be allowed to nurse their infants at all and those with inactive tuberculosis only in moderation.
WEBER

II I K Total Extirpation of the Gravid Uterus in Tubercular Patients (Die Total-Extirpation des graviden Uterus bei Phthisikerninnen) *Klin. u. therap.*

II 424 93 22, 17
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The author advocates the total extirpation of the uterus without removal of the ovaries as practiced by Bumm in pregnant women with tuberculosis. The operation can all be performed at one time. It insures sterility and puts a stop to the exhausting menstrual discharge. To avoid the evil results of general anesthesia he recommends lumbar or conduction anesthesia by Ruge's method. Though it is opposed by many, total extirpation if used only when there are strong indications for it is allowable theoretically and has already been used in numerous cases.
EISENBERG

V Masaglia A Tetany Resulting from Experimental Parathyroid Insufficiency During Pregnancy and Eclampsia (Tetanie infolge experimenteller Parathyroidinsuffizienz während der Schwangerschaft und Eklampsie) *Zentralbl. f. Hg. Pathol. pathol. Anat.*

93 21 577
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Vasava observed tetany in a nursing female dog after removal of the parathyroids and advanced the theory that eclampsia is due to an insufficiency of those glands. This theory is strengthened by some interesting experiments performed by Masaglia.

The parathyroids of two male dogs were extirpated almost completely. Both dogs remained well with

the exception of a slight albuminuria. A few months later after the animals had become pregnant they were taken ill. The body commenced to tremble in a short time the symptom-complex of tetany developed. It improved somewhat on the administration of parathyroidin but recurred repeatedly. The first animal died of tetany during the third labor following the extirpation. The microscopic examination of the liver and kidneys showed fatty degeneration.

Parathyroid insufficiency therefore first manifests itself during pregnancy and the puerperium by tetanic attacks resembling the clinical picture of eclampsia. The author admits, however, that parathyroid insufficiency is not always the only factor or even an essential one in the production of this varied clinical picture.
KRENS.

Nacke and Less Rapid Delivery in Eclampsia with a Contribution to the Blood Letting Treatment of the Same (Kritische Bemerkungen zur Schellenthöndung bei der Eklampsie mit einem Beitrag zur Aderlastherapie der Eklampsie) *Zentralbl. f. G. u. d. 193 221, 1189*

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The authors are in favor of rapid delivery. Its success does not depend alone on the loss of blood as in blood letting but the evacuation of the uterus, the release of the abdominal organs from pressure and the decrease of intra abdominal pressure also play an important rôle.

The mortality in 79 cases noted was four. The puerperal eclampsias were attended by no fatalities. The conservative treatment with primary venesection was not employed in these cases, but it was used in 24 cases of puerperal eclampsia and as an aid to active therapy.

A marked difference in the decrease of the albumin content of the urine and increase of diuresis were not observed in the cases treated either with or without venesection. Profuse blood-letting does not cause shock in the sense that resection-eclampsias during the puerperium show a higher mortality.
HENSEN

Clivio I I Placenta Praevia (Placenta Praevia) *Acta Med.*

110 103 200
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

In Clivio's experience the placenta presented for demonstration frequently show a decreased thickness and increased surface extension. The danger of placenta praevia lies more in the infection due to frequent examinations, surgical intervention and tamponing than in the hemorrhage. Infection occurs most frequently in anemic women (as a result of malaria, ankylosis, pernicious anemia). Tamponing is only justifiable as a temporary means of arrest of hemorrhage until the preparations for an operation are completed or the patient has been transferred to an obstetrical institution. He recognizes as methods of treatment: rupture of the amniotic sac, metemesis and podalic version. Conservative or Porro's caesarean section must be

considered in placenta praevia centralis. The mortality following caesarean section is less than that of placenta praevia in the clinic and does not even amount to one-half of that in general practice.

Clivio especially recommends a Porro operation in multiparae as it prevents haemorrhage during the puerperium and in future pregnancies. If the haemorrhage first appears during the period of labor pangs then the results are essentially better as generally a marginal placenta praevia is concerned and the uterine os is already dilated or can easily be dilated. In longitudinal positions of the fetus rupture of the bag of waters is indicated in transverse positions version. The fetal mortality is very large in severe cases as the life of the mother must always be considered first. Many children die as the result of detachment of large portions of the placenta and the delay in delivery caused by the conditions present. If a living and viable fetus can be diagnosed Clivio recommends that the patient with a placenta praevia be sent to a lying-in hospital to avoid endangering the life of the woman by repeated tamponings. Niksey

Boni A.: Treatment of Placenta Praevia (Sulla cura della placenta praevia). *Riv. G. Ostet. e G. nec.* 1913 20 65

By Zentrabl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

In 68 cases, treated since 1895 in the Gynecological Clinic at Pisa the maternal mortality was 5.88 per cent the infantile mortality excluding those who died before the beginning of treatment, 40 per cent.

In lateral placenta praevia, rupture of the membranes generally suffices to stop the haemorrhage and also in many cases of partial placenta praevia. In cases where this is not sufficient rapid delivery should be done. If the os is not dilated the best method is Bonnaire's manual dilatation. In rigid os combined version by Braxton Hicks method should be substituted. The author has often used Bonnaire's method and has never seen serious cervical tears. Caesarean section should be reserved for exceptional cases. Cotlovatso

Bondy O.: Bacteriological Examinations in Extraperitoneal Caesarean Section (Bakteriologische Untersuchungen beim extraperitonealen Kaiserschnitt). *Ztschr. f. Geburtsh. u. Gynäk.* 913 1200 55

By Zentrabl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The principal indication for the extraperitoneal caesarean section in preference to the transperitoneal are the "unclean cases." The author for the past 1½ years has conducted in estimations on extra peritoneal caesarean sections to decide (1) Whether clinically clean cases show an entire absence of micro-organisms (2) What is the course of the clinically and bacteriologically clean cases as compared with that of cases with infected liquor amni. The method employed is as follows () Immediately before operation smears were made from the cervix and from the external os and (2) immediately after rupture of the membranes smears were made with

cotton applicators from the liquor taken from the cervical incision. Cultures were made on different media. The method and technique are described in detail. He concludes as follows. It is not so important to determine whether bacteria are present or not as it is to determine the nature and the number of the organisms present. *Staphylococcus albus*, *psuedodiphtheria bacilli*, and also the non-haemolytic streptococci are relatively harmless. The smear is not to be disregarded it is of significance when smear and culture of the same secretion correspond. The number of bacteria in the liquor amni is of importance.

Cases with ruptured membranes which have been examined outside of the clinic and with temperature above 37.5° — so called infected cases — always have bacteria in the liquor. In these infected liquor cases the smear always showed numerous bacteria similar to pus which contains bacteria. There was a marked degree of correspondence between clinical and bacteriological cleanliness, although the clinical course of the cases did not absolutely correspond with the bacteriological cleanliness. The bacteriological examination of the secretion and especially of the liquor may be of considerable significance in determining the indication for extraperitoneal section. If the smear contains numerous organisms then the extraperitoneal route is to be preferred over the transperitoneal. If the transperitoneal operation is performed in cases with infected liquor, or if the peritoneum is torn in the extraperitoneal operation it is perhaps advisable to drain the peritoneal cavity. In extraperitoneal cases of this kind it is advisable to drain the cellular tissue wound. Hanss

Von Mihalovics, L., and Rosenthal E.: Clinical and Bacteriological Contributions on the Treatment of Abortion (Klinische und bakteriologische Beiträge zu Abortustherapie). *Monatsschr. f. Geburtsh. Gynäk.* 19 3 333-340 90.

By Zentrabl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The locus of 100 cases of actively treated abortion was carefully examined. Expectant treatment was used only in cases in which abortions were in progress, most of them in the fifth and sixth months of pregnancy. Pathogenic organisms were found in 99 of the cases but seldom in pure culture: 22 times the haemolytic streptococcus (twice in pure culture), 44 times the non haemolytic streptococcus (no pure culture), 85 times the staphylococcus (11 times pure culture and 4 times hemolysis).

The course of the cases of haemolytic streptococci was more favorable than that of the non haemolytic streptococci. The haemolytic power is acquired through adaptation. Schottmüller's staphylococcus putridus was found in only one case. A fatal case of peritonitis due to *B. coli* is fully described. The authors come to the conclusion that the proper treatment of abortion must be based on clinical, not bacteriological findings. Even finding haemolytic streptococci in the circulation does not indicate a

bad prognosis Observations on 875 cases treated actively and 273 treated expectantly lead them to conclude that a moderate degree of active treatment is best active treatment is indicated therefore especially in cases with fever The results are given in tabular form. LANEES

Waber A Report of 593 Abortions with Special Consideration of the Treatment of Febrile Abortions (Bericht über 593 Abort mit besonderer Berücksichtigung der Therapie der febrilen Abortus) *Petersb med Woch* 1913 xi 63
By Zentralbl f d ges Gynaek Geburtsh u d Grenzgeb

As we do not at present possess a procedure clinically applicable which expresses the intensity of disease changes by the germs present therefore we cannot utilize a treatment which is based on bacteriology Only the local disposition is of importance in deciding the degree of severity of the infection neither the bacteriological findings nor the curettage being of little consequence The best testimony for this method of procedure is Waber's 593 febrile and febrile abortions, which were treated according to the general principles of active therapy i.e. immediate digital exploration without considering the bacteriological findings of the cervical secretions The results are excellent and far superior to those of the expectant plan of treatment EERLE

Huntington J L Relation of the Hospital to the Hygiene of Pregnancy *Bosto M & S J* 1913 clinx 763
By Surg Gynec & Obst

Attention is called by the author to the great importance of properly safeguarding the mother and child during the course of pregnancy and to the great value of frequent consultations of the physician with the patient An outline is presented of the work done by the pregnancy clinic of the Boston Lying In Hospital and recommendations are given for improvements along the lines of work carried out by the clinic

Most of the patients come to the clinic between the fifth and sixth month and are subjected to a complete physical examination at the time of entrance They are then given instructions as to the general care of themselves and also as to the special symptoms which they are expected to report to the physician in charge Each patient is asked to return to the clinic once every ten days and in this way a careful follow up system is formed

The results of this clinic are extremely satisfactory as the death rate is relatively low and many cases receive appropriate treatment early for complications which if allowed to run, might endanger the life of mother & child or of both J H SKILES

LABOR AND ITS COMPLICATIONS

Schlappoberski J Rectal Examination During Delivery (Zur Untersuchung per rectum während der Geburt) *M & S J Geburtsh Gynaek* 1913 xxi 113
By Zentralbl f d ges Gynaek Geburtsh u d Grenzgeb

The author points out the great danger of infection by vaginal examination of women in labor and

shows that if skillfully done rectal examination shows the relation of the presenting part to the pelvis and in many cases the degree of opening of the mouth of the uterus so that vaginal examination is rendered unnecessary He thinks the method of rectal examination should be taught to midwives Since he has been using it he has had very good mortality statistics in obstetrical cases EISENSACH

Schwarzwallner New Manipulations in Brow Presentations (Über den Kegelkugelhaandgriff) *Zentralbl f Gynaek* 1913 xxv 289
By Zentralbl f d ges Gynaek u Geburtsh u d Grenzgeb

In Liepmann's manipulation for correcting brow presentation the hand seizes the child's head like a bowling ball and gives it a spiral twist until the small fontanel appears at the mouth of the uterus The outer hand pushes the forward shoulder to the other side as the head is turned The author has used this procedure eighteen times always with good results Afterwards the delivery is completed with forceps There is no danger in the procedure as in Scanlon's method of turning the head with the forceps or in extraction with the brow presentation One can at the same time stretch the vagina and the rigid mouth of the uterus and push the latter back over the child's head HOFFMANN

Mosher G C: The Problem of the Occipito posterior Position *J Amer M J* 1913 xx 138
By Surg Gynec & Obst

The author reports that in a series of 20 consecutive pregnancies he had 16 cases of the occipito posterior position Beyond a doubt the right occipitoposterior position is one of the greatest bêtes noires of obstetrics and a subject which cannot be too much discussed nor too well understood

After discussing the subject in detail the author reaches the following conclusions

The landmarks to be kept in the limelight are (1) The making of an accurate diagnosis (2) the preserving of the membranes (3) no treatment in the first stage if the patient is in good condition for over 90 per cent have spontaneous rotation (4) the great desideratum is to encourage good flexion good pains (5) in the second stage with weak pains first chloral & d morphine should be used (Twedy's plan) (6) manual rotation has resulted in many safe deliveries (7) if the head is not engaged version may be indicated (8) rotation by forceps and reapplication is recommended by New York obstetricians (9) in 2 per cent of these cases the head must be delivered posteriorly and deep lacerations are to be expected (10) it is predicted that cesarean section will more frequently be selected after the patient has been given the test of labor and the attempt found unsuccessful I DWAN L COR ELL

Pincus, F Injuries to the Eye by Forceps Delivery (Über Schädigungen des Auges durch Zangenentbindung) *M & S J Geburtsh Gynaek* 1913 xxi 113
By Zentralbl f d ges Gynaek u Geburtsh u d Grenzgeb

Injuries to the eyes during birth are rare Lesions of the cornea the iris and the ciliary bodies are sel

dom seen during spontaneous labors. Retinal hemorrhages which are frequently seen near the posterior fundus of the eye are rapidly absorbed. They are caused by pressure of the skull compression of the jugular veins, and the changes in the circulation occurring with the first inspiration. Fractures of the orbital cavity observed in spontaneous labors endanger the eye. Severe hemorrhages into the orbital cavity may cause exophthalmos and injuries to the eyes may also be indirectly caused by cerebral lesions. The use of forceps considerably increases the dangers to the infant's life especially if they are applied to the still high head in the fronto-occipital diameter.

The slipping of the blades in particular is accompanied by bad results. Opacities of the conjunctiva which are caused by forceps injuries are either diffuse and smoky and disappear quickly or they are deep and band like and mostly of a permanent nature. The latter opacities are due to lacerations of Descemet's membrane the escaping humor bringing about processes of inflammation and degeneration unilateral severe astigmatism with lineal opacity of the cornea is explained in this manner while severe lacerations of the corneal membrane are occasionally observed.

Paralysis of the facial nerve which frequently follows forceps deliveries may cause lagophthalmos and ulceration of the cornea. The pressure of the forceps induces hemorrhage into the inner eye (anterior chamber lens vascular or retinal membrane) and occasionally cataracts and luxation of the crystalline lens. Lacerations of the iris hydrophthalmos and hemorrhagic detachment of the retina are very rare complications.

The optic nerve is endangered by basal skull fractures which are not so very rare in forceps deliveries (spicula of bone pressure by blood clot). The severest injury to the eye exophthalmos protrusion of the eyeball or its traumatic forcible removal are to be traced back to fractured bones. Lesions of the structures of the neck may be indirectly conducive to disturbances of the eye. Pinous describes a case of paralysis of the sympathetics caused by pressure of the forceps blade on the cervical ganglion. Hirsch

PUERPERIUM AND ITS COMPLICATIONS

Nagel: Th. Blood Vessels of the Puerperal Uterus (Über die Bl. Gefäße des puerperalen Uterus). *Tr. Internat. Cong. Med. Lond.* 1913 Aug.
By Zentralbl. f. d. ges. Gynäk. Geburtsh. d. Grenoble

Nagel has shown by means of a specimen with injected vessels that contrary to the belief of many authors the uterine artery sends out branches to the cervix as well as to the body of the uterus. These branches on both surfaces of the uterus form anastomoses with those of the opposite side. These transverse anastomoses are connected by longitudinal ones and send branches into the different muscular layers of the uterus which again are connected

with each other and form a network consisting of three layers. The course of the ovarian vessels is also plainly to be seen in the specimen. The five ovarian arteries rise from the spermatic artery and break up before they enter the ovary into a bundle of tortuous vessels.

Harrar J. A.: The Treatment of Puerperal Streptococemia with Intravenous Injections of Magnesium Sulphate. *Am. J. Obs. N. Y.* 1913 Vol. No. 5. By S. G. Gynec. & Obst.

Harrar reports the results of the intravenous injection of magnesium sulphate as advocated by Huggins. The treatment was employed in 14 cases of streptococcus infection with 12 recoveries in 5 cases in which blood cultures were positive, only one died. A 2 per cent solution of chemically pure magnesium sulphate is prepared with freshly distilled water and is then filtered and sterilized in an autoclave. By simple puncture 400 ccm of this solution is injected into a vein. The injections should be repeated every second or third day according to the course of the infection as revealed by the temperature chart—ordinary supporting measures being meanwhile carried out.

Harrar does not attempt to explain the action of this medication since as he says, magnesium sulphate has been shown not to inhibit the growth of streptococci and not to cause a leucocytosis, yet he believes the results obtained in the severe cases which he selected for this treatment are so striking as to justify the further trial of this method of treatment especially since the method is absolutely harmless. N. SPROAT HEANEY

Ricketts R. M.: Surgery of Puerperal Eclampsia; Suprapubic Cesarean Section. *T. Western S. & A. St. Louis*, 93 Dec.

By Surg. Gynec. & Obst.

The deductions of Ricketts from personal letters to surgeons health officers and the U. S. Census Bureau at Washington indicate that 4 deaths occur in the United States annually to every 100,000 persons, as the result of puerperal eclampsia also 40 infants to every 100,000 thus making 4,000 mothers and 40,000 infants as the sum total based upon 100,000,000 inhabitants. He also shows that frequency and mortality increase in passing from the temperate zone to the equator and that the frequency and mortality are greater in the black races. He suggests that certain factors in the climate found in the warmer climate may be more prone to select the pregnant woman for their habitat thereby inducing eclampsia the cause of which has not been fully determined.

Concerning operative measures for eclampsia, his work shows that suprapubic cesarean section, since 1905 when performed immediately after the first convulsion without complication has reduced the mortality of mothers to less than 10 per cent and infants to about 15 per cent. Personal letters from various operators are incorporated in his rather extensive paper as evidence of these facts.

Vogt E.: The Trendelenburg Operation in Puerperal Pulmonary Embolism (Die klinischen und anatomischen Grundlagen der Trendelenburgschen Operation bei der puerperalen Lungenembolie) *Zisch f Geburtsh u Gynäk* 19 3, LXXII 137
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

The Trendelenburg operation has been but rarely performed never for puerperal pulmonary embolism. The author reviews 14 fatal cases of puerperal pulmonary embolism which occurred in the Dresden Clinic between 1897 and 1913 with regard to the applicability of the operation. The conditions necessary for its successful performance are exact diagnosis of the embolism and of its location immediate operation and a good condition of the patient. The diagnosis is easy even if no primary thrombosis can be demonstrated clinically. Of the author's 14 cases 3 died suddenly after a normal puerperium. Mahler's sign was present in 5 cases in 65 per cent exitus occurred without any premonitory symptoms. The embolism can be extracted only if it is lodged at the root or in the main branch of the pulmonary artery. In multiple emboli of the smaller branches removal cannot be considered. In the author's 12 autopsies either the conus or main branch was involved 8 times, in 4 cases the branches of the second or third order were involved. In Ranz's surgical cases of pulmonary embolism the thrombus was more frequently found in the small branches. In Vogt's cases operation was possible 9 times 64 per cent, within 15 minutes, 10 times 71 per cent within 5 minutes after the attack, whereas in Busch's 22 cases of post-operative embolism it was possible to operate only in 44 per cent of the cases. Puerperal pulmonary embolism occurs in strong individuals before the thirtieth year in 50 per cent of the author's cases and in 45 per cent between the thirtieth and fortieth year. Post-operative embolism however occurs in individuals weakened by hemorrhage suppuration or neoplasm and usually between the fifth and seventieth year.

VOG MEX-XX

MISCELLANEOUS

Ejlsøeth M. The Signs of Maturity in the New Born Child (U tersuch egen über die Reifezeichen des neugeborenen Kindes) *M natshr f Geburtsh u Gynäk* 9 3, LXXI 26
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

The work is not adapted to a short abstract. The author personally examined 1073 new born babies in regard to numerous factors and comes to the conclusion that no single developmental sign alone nor even in combination with other signs is characteristic enough so that the duration of pregnancy can be definitely determined from it.

HAARM

Welch J E.: Human Serum Treatment for Hemorrhagic Diseases of the New Born *N Y St J Med* 9 3, LXXI 538
By Surg Gynec & Obst.

The author reports a typical case of a new born baby in good condition in every way weighing 9

pounds at birth. On the third day bleeding from the vagina was noticed in a few hours the gums began to bleed and in 24 hours bright red blood was being passed in the stools. The bleeding continued for three days when hemorrhagic spots appeared beneath the skin. The temperature gradually increased until on the fifth day it reached 103. The baby's weight rapidly declined and the voice grew weak. Normal human serum injections were begun at midnight on the fifth day one ounce being given hypodermatically twice a day for four days. The bleeding began to diminish within a few hours after the first injection and at the end of 48 hours had ceased entirely and the child soon regained its normal functions. In some cases the primary bleeding may begin around the cord.

Welch believes that the hemorrhage in the new born is due to an altered state of the circulating blood which causes an injury to the endothelial lining of the blood vessels, thus allowing an escape of the red blood corpuscles into the surrounding tissues — there may or may not be a retarded coagulation time. This substance which circulates in the blood is a toxin and may result from bacteremia syphilis or poisons derived from the gastrointestinal tract especially the colon because in some instances the feces have the foul odors of decomposition. Emaciated children develop toxins from metabolic products of suboxidation. If the toxin has impaired the capacity of the general body tissues to form thromboplastin enough to neutralize the antithrombin then the coagulation time is increased.

The hemorrhages are not controlled by a coagulation process. The human serum performs its function by virtue of its food value restoring the endothelium quickly to its normal condition.

Welch gives an ounce in each injection subcutaneously twice daily in moderate bleeders and three times daily in severe cases using gentle massage during the injection. Intravenous injections are severely condemned and serum must be used within 48 hours in order to avoid precipitation.

The patients are usually in a condition of shock with low blood pressure. There is cloudy swelling and some fatty degeneration of the tissues especially of the liver and kidneys the complement content of the blood is also lowered.

The use of foreign sera, such as horse serum is condemned because its administration has been shown to cause focal necrosis of the liver hyaline blood platelet thrombosis in the capillaries of the lungs, anaphylaxis and if more than a certain quantity is used the coagulability of the blood is decreased and active hemorrhage may result.

When whole blood is introduced, the cellular elements have to be slowly absorbed which consumes much energy.

The direct transfusion of blood is impracticable because in 50 per cent of cases it is physically impossible and in 25 per cent hemolysis or thrombo-

sis occurs. This leaves but 25 per cent of the cases benefited by the treatment.

In closing Welch describes how the serum is collected and prepared
EUGENE CARY

Kehrer E.: Tetany of the New-Born (Über Tetanie Neugeborener) *J. Arb. f. Kinderk.* 1913 xiv 639
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. s. d. Grenzgeb.

This is a report of six cases of tetany in the new born. The diagnosis was positive, as all the typical signs were present. Clonic convulsions were prevalent in three cases, tonic contractions persisting for a long time were present in the others. The contractions of the upper extremities were always more pronounced than those of the lower. It was difficult to overcome the spasms of the legs, which were convulsively flexed. Chvostek's facial phenomenon and also Trousseau's arm sign were present showing increased mechanical irritability of the nerves. Clouding of consciousness was apparent in all the cases contrary to the usual opinion.

Of interest is the combination of tetany with nephritis in the one case with scleroderma in two others and with severe icterus in another case. These combinations must be considered as a sign of severe damage to the organism. The simultaneous occurrence of tetany in the newborn and a markedly tetanic condition in the mother is noteworthy. The lime treatment is very successful. An improvement occurred within a few days if sufficiently large doses were given (0.2 calcium chloride 5 to 8 times daily). It may be administered subcutaneously or per rectum. To avoid the formation of an abscess on the hypodermic administration, it should be given in several parts of the body or Muller Saxl's calcium gelatin should be used.
BETHUR

Jürgensen G.: Investigations on the Salt Fever of Nurlings (Untersuchungen über Kochsalzfeber bei Sauglingen). *Ugeskr. f. Læger* 1913 lxxv 19
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. s. d. Grenzgeb.

Wechselmann's researches on the poisonous nature of old distilled water and the rôle it plays in the use of salvarsan induced Jürgensen to investigate whether similar conditions obtained in the fever which appears in nurslings after physiologic salt solution is injected subcutaneously as Schaps Finkelstein and several others have found. He injected salt solution prepared with freshly distilled water and salt solution which had stood exposed for some time. The results in all cases showed that old solutions produced conditions similar to those described by the above mentioned authors but nothing similar occurred if a fresh solution was used. Similar results prevailed if a 5 per cent solution of glucose was used instead of a salt solution. He believes, therefore, that the fever reaction after subcutaneous injection of physiologic salt solution is exclusively of bacterial origin.

S. A. GAMMELTOTT

Henschen, K.: The Diagnostic and Therapeutic Aspiration of the Fontanel in Subdural Hematoma in the New Born (Die diagnostische und therapeutische Fontanellaspiration des subd. rales Gehirnhämatoms der Neugeborenen). *Zentralbl. f. Gynäk.* 1913 xxxvii 925
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. s. d. Grenzgeb.

The author suggests that skulls of infants dying of cerebral hematomata be frozen before autopsy is performed to prevent the blood from changing its location so that the exact location of the hematoma may be ascertained. He classifies these hematomata as does Seitz, into those of the convexity supratentorial and of the base or infratentorial. In the first group the classical symptoms, restlessness, high tension pulse, tension of the large fontanel, difference in the size of the pupil in unilateral hematoma, increased reflexes, paresis and convulsions, show clearly the increased intracranial pressure due to the gradual formation of the hematomata.

In the second group these symptoms are indefinite—soft pulsating fontanel, somnolence, cyanosis, rigidity of the neck, absence of the cerebral cry, irregular respirations. In these portions of the brain complete myelinization does not occur as early as in the motor cortical areas. The author recommends exploratory puncture of the subdural space from the outer angle of the large fontanel for diagnostic as well as therapeutic purposes in cases of frontal, parietal, or occipital hematomata and cervical puncture in basal hemorrhages. Usually both may be combined in order to draw off the fluid which is increased by the exudate. If the blood has coagulated the skull should be opened as advised by Cushing and Seitz, the clots removed and the vessels ligated. Of 16 patients thus operated upon 7 were cured. The author reports one such case. He concludes that (1) a subdural hematoma which has been removed by operation and closed without drainage will recur if the tamponing effect of the clot is removed, (2) the hematoma may not be found at the puncture, and if not it is advisable to open the skull on both sides in cases of bilateral convulsions. The technique of the puncture requires a cannula of large caliber. This is introduced obliquely through the outer angle of the large fontanel, the point being upward, the lumen downward.

In cases where an occipital hematoma is suspected the cannula is introduced through the outer edge of the small fontanel underneath the occipital bone. At the same time the bones of the skull are overlapped at the coronal and lambdoidal sutures by compression. Where craniotomy is performed the parietal bone is cut at the angle of the fontanel and torn loose from its interstitial membrane. The base of this triangle is broken and the bone is reflected outward with its soft parts. After the dura has been opened and the necessary steps taken, the bone is turned back and the scalp only sutured, not the dura.
MORSE

Vogt E.: Duodeno-Jejunal Hernia in the Infant (Hernia duodeno-jejunalis beim Säugling) *Monatschr f Gebn u Gynäk* 1913 xxvii 817
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

The clinical picture was as follows. A healthy new born infant was put to the breast for the first time 12 hours after birth. Immediately after nursing the infant vomited the entire quantity of milk. Profuse evacuation of meconium followed. Vomiting recurred with each nursing and after the milk was vomited pure bile followed. The region of the stomach was somewhat distended, and a tumor the size of an apple seemed palpable to the left of the spine. The child gradually became worse and died on the fourth day. Upon opening the abdominal cavity a thin walled peritoneal sac the size of a fist was found directly below the stomach and transverse colon to the left of the spine. Loops of small bowel shone through the sac. The hernial ring formed by the edges of the duodeno-jejunalis fossa was sharp and contained a blood vessel. There was no definite strangulation of the loops at the entrance and exit of the sac and none of the loops were adherent to each other. The omentum was well developed. The case was therefore a duodeno-jejunal hernia. This is the first case on record in which such a hernia was congenital and caused disturbances immediately after birth.

WITKOWSKA

Boerma, N J A F Th Manner of Embedding the Human Embryo (B trag ur ke ntn der Eibettung des menschl ke Eies) *W tsch f Geb tsch Gv ak* 1913 xxvii 73
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

Boerma had the good fortune to obtain an injured well preserved human egg $6 \times 3 \times 2\frac{1}{2}$ mm in size which he considers one of the smallest embryos in existence. On his preparation he could prove that the intervillous space is not always filled with blood which confirms the view expressed by Spee in 1896. Fortunately by accident the direction of the cut surface was parallel to the long axis of the embryo and the point of attachment was so cut that the yolk sac and its attachment were opposite to the amnion, mesoblast and chorion in one field.

DAVILA

Meyer R. The Relation of the Ovary and the Fertilized Ovary to the Follicle Apparatus and That of the Corpus Luteum to Menstruation (Über die Beziehung der Eizelle und des befruchteten Eies zum Follikelapparat sowie des Corpus luteum zur Menstruation) *W tsch f Gynäk* 1913 c.
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

The fate of the follicle depends upon the fate of the ovum. As a result of maturation the primordial follicle is converted to the granular follicle and the theca cells are grouped around the epithelium of the membrana granulosa. An abortive maturation is observed in older fetuses and in small children. The maturation and fertilization of the ovum produces a combination of maturation

of the other ova and atresia of the follicle. If many ova are in the state of maturation the secretion of the membrana granulosa produces a cystic degeneration of the ovary. With the expulsion of the matured ovum the luteal cell border is formed from the epithelium of the membrana granulosa. The proliferation vascularization maturation and retrogression of the corpus luteum go hand in hand with the cyclic changes in the uterine mucosa the maturation and beginning retrogression occurring at the time of menstruation. The fatty degeneration of the luteal cells in the corpus luteum of pregnancy occurs principally at the end of pregnancy. The latter also contains a larger amount of colloid and calcium than the menstrual corpus luteum. Morphologically it is characterized early by a connective tissue stroma without hyaline degeneration and by reinforcement of the vascular walls. The onset of menstruation is the latest period for the death of the ovum of the previous ovulation. Meyer observed abortive corpora lutea showing retrogression before complete development had occurred and considers them due to premature death of the ova. In addition he observed partial accessory luteal border formation in parts of the walls of cystic atretic follicles in a state of development nearly as far advanced as that of the normally developed corpus luteum. This partial accessory luteal border formation was present in pregnancy as well as without it. It is possibly due to a distant action of the ovum of the normal corpus luteum. It is probable that a single living ovum may produce double corpus luteum formation (two corpora lutea in pregnancy). A further anomaly of the epithelial luteal cells is their partial persistence in atretic follicles during pregnancy which like the hyperplasia of the theca cells may be attributed to the influence of the luteal accumulation of the fertilized ovum which is still more exaggerated in hydatid moles and in chorio epithelioma. In the latter case the cause must therefore be sought not in the ovum but in the pathologically changed chorio epithelium.

WITKOWSKA

Warthin A S. Miliary Tuberculosis of the Placenta with Incipient Pulmonary Tuberculosis of the Mother Becoming Latent after Birth of Child. *J Am Med Ass* 1913 lxi, 1951
By Surg Gynec & Obst

The author reminds us that it is generally recognized that the influence of pregnancy on maternal tuberculosis lights up pre-existing tubercular lesions in the mother. Authorities have minimized the danger of congenital transmission even in the presence of the recognized placental tuberculosis. During the course of a routine gross and microscopic examination of the placenta, where miliary tuberculosis was demonstrated there were no miliary thrombi but a few giant cells were found and in every section a small number of tubercle bacilli were also found in caseating tubercles.

The author gives details of the following case. A woman aged twenty a domestic came under his observation for hysterical insanity. She gave a history of scarlet fever and measles and acknowledged a definite gonorrhoeal infection. With the exception of a diagnosis of pregnancy the physical examination was negative. The family history showed no tubercular infections and as far as the patient knew she had never been exposed to the disease. After childbirth an examination of the chest showed a slight increase in vocal fremitus in the right posterior apex there was a slight impairment on percussion the expiration was harsh the pulse 108. The diagnosis showed there was a suspicion of a healed tubercular process in the right apex. Tuberculin tests: Von Pirquet 25 per cent. In 96 hours there was a slight reaction. A subcutaneous tuberculin test of 2 mg was given at 10 A.M. the following day. At 2 P.M. there were redness and tenderness at the site of the injection. The highest temperature reached was 99.2°. One month after she was given 5 mg. Her temperature reached 99.7° the following day at noon at evening the temperature was normal. The X-ray showed no definite tubercular condition but there was an increase in root shadows.

The author concludes that the placental miliary tuberculosis was of low virulence. Probably in the third or fourth month of pregnancy a latent tuberculosis existed in the right apex and the bacilli were carried through the blood stream and deposited in the placenta. The patient showed no other tubercular sign on leaving the hospital. The low virulence of the placental infection may be explained by the relative immunity on the part of the placental tissues or as the mother failed to develop a miliary tuberculosis the bacilli may have been of a feebly virulent strain (bovine) or the number of bacilli in the maternal blood stream may have been small and lodged only in the placenta.

ROBERT T. GILLMORE.

Foulkrod C.: A Consideration of the Reaction of the Human Organism to the Cell of Foreign Protein, Represented by the Syncytial Cell. *Surg. Gynec. & Obst.* 1913, xiv, 598.
By Surg. Gynec. & Obst.

The author tells of a series of experiments made in attempting to develop a simpler test for pregnancy than the biological test.

The first series consisted of drop cultures of placental tissue in serum from the cord from the same placenta, in the same medium treated with pregnant blood and with non pregnant blood and glandular extracts.

The method is complicated and therefore open to many errors. When the cultures were successful, there could be proven some digestion of the placental cells treated with pregnant blood.

In the second series with antigens made from a full term placenta, attempts were made to develop a complement fixation reaction with pregnant

blood. This was unsuccessful possibly because it has as yet been found impossible to dissolve out the antigen.

Heynemann T.: The Diagnostic Value of X-Rays in Obstetrics (Die diagnostische Verwertung der Röntgenstrahlen in der Geburtshilfe). *Zschr. f. Geb. u. Gynäk.* 1913, ix, 123.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The diagnostic value of the X-rays in obstetrics is limited to the study of the maternal pelvis and its characteristics and to the demonstration of the child during pregnancy. X-ray demonstration of the conjugata vera is not practicable but those diameters which are difficult to measure directly may be ascertained in this manner. Distance pictures of the pelvic inlet possible only in the non-pregnant state are extremely valuable. Stereoscopic pictures are next in value. Recently the X-ray demonstration of the child has been quite successful. Beginning with the seventh month it is possible to obtain in almost every case a picture of the fetal skeleton but before this time it is exceptional to secure a picture. The same is true of extra uterine pregnancy. The exposure does no harm so long as it is not unnecessarily prolonged. The X-ray demonstration of pregnancy will not and should not take the place of other methods of examination but should only be used as a supplement to them.

HINCH.

Williamson H.: The Value of Abderhalden Test for Pregnancy. *J. Obst. & Gynec. Brit. Emp.* 1913, xiv, 217.
By Surg. Gynec. & Obst.

The test was applied to 50 patients, 20 of whom were either in the last months of pregnancy or had recently been delivered. Of these 20 the results were positive whereas in the other 30, non pregnant cases the reaction was negative. In 16 cases the test was applied for diagnostic purposes proving correct in 12 cases, wrong in 2 and doubtful in 2. The author has formulated the following conclusions:

1. It is established that the serum of pregnant women contains a ferment specific to placental albumin.

2. This ferment can be demonstrated from the eighth week of pregnancy until ten days after delivery.

3. Its presence may be demonstrated by the potentiometer or dialysis.

4. The former method is the more reliable in that the sources of error are fewer.

5. The accuracy of the test depends upon the most scrupulous care in details and only in the hands of experts can the results be relied upon.

6. The ferment is found only when chorionic tissue is present in the body.

7. It is probable that under the conditions the color reactions and optical effects produced by the test may be simulated.

8. Most of the common sources of error have

already been detected and in the near future the test may be expected to give more reliable results

CAREY CLARKE

Sunde A: Abderhalden's Serological Diagnosis of Pregnancy (Die Abderhaldensche serologische Reaktion der Schwangerschaft) *Norsk M f f Læge* and *Nsk Christians* 19 3 lxxv 234
By *Zentralbl f d ges Gynäk u G burtsh d Grenzgeb*

A detailed description of the theoretic principles and technique of the procedure is given with a report of 83 cases examined by the method of dialysis. In 75 cases the clinical results confirmed the diagnosis. Eight times it was positive when pregnancy did not exist—twice in men and six times in women who certainly were not pregnant. The author however thinks the method is absolutely reliable and attributes these failures to a lack of care in washing out the placenta. It is absolutely necessary to follow Abderhalden's directions very carefully. He did not try the optic method.

HOVE

Stoeckel: Abderhalden's Pregnancy Reaction (Über d Abderhaldensche Schwangerschaftsreaktion) *M h n med Wch schr* 19 3 lx 73
By *Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb*

The diagnosis of pregnancy during its early months is at times very difficult especially when the pregnancy is extra uterine and yet it is here that a diagnosis is of extreme importance. The Abderhalden reaction offers some hope of making a positive early diagnosis. The author gives a short description of the reaction and the principles upon which it is based. The polaroscopic method is only adapted for clinics at the present time. The dialysis method has been tried in many cases and by many men but Abderhalden's results have not been completely corroborated. The author reports 130 cases in which the dialysis method was tried and the results of which were published by Behne. According to these results the proof of a specific reaction is still lacking. Errors of technique will be investigated later. Stoeckel is of the opinion that Abderhalden's reaction at the present time is not of much significance for general practice nor for the forensic side of obstetrics. On the other hand he is convinced that by both of the methods new insight will be gained into the realm of the biologic relations existing between mother and child relations hitherto but poorly understood.

ROWE

Jonas, W: Contribution to the Clinical Value of the Abderhalden Serum Reaction of Pregnancy (Die Dialysis Methode (Beiträge zur klinischen Verwertbarkeit der Abderhaldenschen Schwangerschaftsreaktion) *Dtsch l f f r*)
Dtsch kl med Wch skr 9 3 lxxix 200
By *Zentralbl f d ges Gynäk u G burtsh d Grenzgeb*

The author performed the serum reaction of Abderhalden in 50 cases of pregnancy and gynecologic diseases and found the reaction incorrect in

two instances. If in place of the serum blood plasma was employed the reaction was negative even when pregnancy existed. When carcinoma serum and carcinoma tissue were employed the latter was split up in five out of seven cases.

BOXER

Schäfer P: Abderhalden's Ferment Reaction in the Serum of Pregnant Women (Abderhaldensche Fermentnachweis im Serum von Schwangeren) *B l M Wch skr* 1913 l 1605
By *Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb*

A report of results obtained at the Royal University Gynecological Clinic (Kgl Universitäts-Frauenklinik) with Abderhalden's reaction for pregnancy shows that 186 cases were examined by the method of dialysis and 104 of them at the same time by the optic method. The latter method is more easily carried out and is less subject to error. Of 72 pregnant women examined from the first to the tenth month only two reacted negatively one with hyperemesis and one with pregnancy in a bicornuate uterus. The diagnosis of pregnancy was made in one woman's case eight days after the cessation of the menses. There were numerous mistaken positive diagnoses in cases of myoma and carcinoma of the cervix with the optic method only one error was made in a case of myoma. On the whole the Abderhalden method is a valuable addition to our means of diagnosis.

HANAU

Linzenmeyer G: The Calcium Content of the Blood During Pregnancy (Der Kalkgehalt des Blutes in der Schwangerschaft) *Zentralbl f Gynäk* 9 3 lxxv 98
By *Zentralbl f d ges Gynäk u G burtsh d Grenzgeb*

The author confirms Kehrer's observation that the quantity of lime in the blood of the pregnant woman is not decreased but increased. However in contrast to Kehrer he did not find a decrease of the quantity of calcium in the blood of eclamptics. His belief that the amount of lime which the fetus needs for the construction of the skeleton is brought from the mother by way of the blood stream is confirmed by the findings in virgin and egg laying geese. The latter always have more lime in the blood. He adds a small percentage table of the lime contained in most of the ordinary foodstuffs and emphasizes the value of a correctly balanced food. He adds lime in excess as a prophylactic against caries of the teeth which so frequently occurs during pregnancy.

VOIGT

Hinselmann H: So Called Physiological Pregnancy Thrombosis of Vessels at the Placental Site (Die angeblich physiologische Schwangerschaftsthrombose von Gefäßen der uterinen Placentarstelle) *Dtsch l f Geburtsh Gynäk* 19 3 lxxix 146
By *Zentralbl f d ges Gynäk u G burtsh d Grenzgeb*

Thrombosis of blood vessels at the place of placental insertion in the uterus were not found in numerous examinations of gravid and two recent puerperal uteri. Many formations formerly thought

to be thrombi are only necrotic maternal tissue produced by the interstitial implantation of the ovum. Necrobiotic maternal cells and cell debris are transported by the blood and lymph stream. This fact is of importance for the physiology and pathology of pregnancy.

Hasecr

Löfqvist R. The Importance of Pituitrin in Obstetrics (Die Bedeutung des Pituitrins in der Geburtshilfe). *Versamml. d. Nord. sk. Ver. i Kopenh.* 1933.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

From the extensive literature on pituitrin Löfqvist concludes that pituitrin induces labor pains however many existing facts contradict this conclusion. The most important is that the action of pituitrin is very weak in the beginning of labor but develops to its greatest strength toward the termination when abdominal pressure plays the most important rôle under normal conditions. The published cases are mostly of such a nature as to withstand critical investigation.

The author attempted to study the action of pituitrin in women at full term as well as during labor and arrived at the conclusion that pituitrin excites uterine contractions which are however not identical with physiological pains. In cases in which the action is marked a tendency to tetanic contractions of the uterus can be observed. They may be of five ten or fifteen minutes duration and the uterine muscle may not completely relax in the intervals.

If pituitrin becomes active during a physiological labor pain then labor also progresses during the first period. The contractions secured by pituitrin alone cannot dilate the cervix without other assistance. The tetanic contractions, however may in a surprising manner hasten labor after the cervical canal is open especially in multiparae with well dilated soft parts. The pathological character of the pituitrin contractions may best be demonstrated by the measurement of the intra uterine pressure as has been proved by other investigators.

Hofstätter R.: Failures and Injuries Resulting from the Administration of Hypophyseal Extract (Über Mißerfolge und Schädigungen durch die Hypophysen-Extraktion). *Monatsschr. f. Geburtsh. u. Gynäk.* 1933, xxxviii, 24.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The author reports the failures and injuries due to hypophyseal medication. Pituitrin may be employed in acute cases (during and after labor) and in chronic cases (atrophy of the bladder, gynecologic hemorrhages, amenorrhea, hypoplasia, castration and osteomalacia). No disturbances due to the administration of hypophyseal extract were observed. Bad results are possible on account of lack of a physiologic standard, lack of uniformity in the preparation and incorrect dosage and time of administration. The action of the extract during the first stage of labor is uncertain but on the whole not dangerous. Increased uterine contractions,

which may lead to tetany are indicated only if part of the child is fixed in the lower uterine segment.

We must be warned against employing pituitrin as a means of hastening labor for convenience' sake. In incomplete abortions pituitrin is not indicated. Hofstätter denies the view of Patek that it possesses a specific action on the cervix. The induction of labor or premature labor by means of pituitrin is only occasionally successful. There is no danger of increased hemorrhage after delivery due to its use on the contrary a tonic effect may be observed even after delivery. Increased intra-uterine pressure of the child is occasionally observed but only rarely. In all cases of complete or partial failure of compensation and in marked arteriosclerosis or nervousness pituitrin like all substances which increase blood pressure must be employed with caution.

Birnbaum

Mayer A. Dangers Incident to the Use of the Momburg Tube (Über Gefahren des Momburgschen Schlauchs). *Gynäk. R. d. n. d. 93, 39.*

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The application of the Momburg tube may cause injury. (1) The thin walled vena cava may be compressed much sooner and more completely than the rigid aorta especially in sclerosis. As a result thereof, the patient may bleed to death into the vessels of the lower half of the body. This has been proven at autopsy. (2) It is difficult to include the ovarian artery and compress it. The aorta would have to be compressed above the renal to include it. This would shut off the renal vessels and (3) cause injury to the kidneys, especially in nephropathy. Experiments conducted on rabbits have shown that exclusion of the renal vessels from the circulation causes anatomical kidney changes consisting in circulatory disturbances and degenerative processes. Autopsy in a fatal case of placenta previa showed a definite hematoma of the kidney. Therefore a descended kidney would have to be replaced before applying the tube. Compression of the ureter also injures the kidney function; a complete anuria developing. Healthy kidneys may recover after temporary compression of the ureter but diseases of the kidneys will be aggravated. (4) Cardiac injury may result following the severe interference with the circulation incident to the sudden exclusion of the circulation of the lower half of the body. This was observed in experiments on rabbits and on the human being. (5) The intestines may also be injured. In one case an extreme meteorism developed. The tube should not be used unless there are absolute indications for it.

Hasecr

Niklas, F. Placental Hormones and the Use of Placental Extract as Lactagogues (Zur Frage der Placentarhormone und der Verwendung von Placentarsubstanzen als Lactagoga). *Monatsschr. f. Geburtsh. u. Gynäk.* 1933, xxxviii, 60.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The secretion of the breasts is not caused by mechanical or nervous stimuli but only by chem-

ical stimulation. The nutritive theory also must be rejected because the nutritive substances produced during pregnancy can maintain a secretion only for a limited time. The theory of the action of hormones is more probable. These hormones may be derived from (1) the ovary (2) the ovum (fetus and placenta) or (3) the mammary glands themselves. The author demonstrated by his investigations that the ovum must be considered as the chief source of the hormone. He produced a secretion of milk, lasting only a short time following hyperplasia of the mammary glands in virgin as well as maternal animals by the intravenous injection of a placental extract.

A flooding of the maternal blood with hormones probably occurs physiologically as a result of labor pains, which after a certain incubation period is followed by increased activity of the breasts. Nothing is known of the nature of these hormones but they are apparently albuminoid substances formed in the placenta. The question as to whether an insufficiently secreting breast could not be stimulated to increased activity by these substances is indefinitely answered. Experiments were made with wet nurses by the internal administration of tablets of placental secretion. This caused an increase in the flow of milk but only to a slight degree. The subcutaneous injection of placental extract proved to be very painful and is therefore out of the question. Experiment in the line of intravenous administration remains to be undertaken. HIASZOC

La Torre: Is There a Certain Type of Uterine Musculature from an Obstetrical Point of View (Gibt es vom geburtshilflichen Standpunkt einen bestimmten Typus der Uterusmuskulatur)? *Tr. Internat. Cong. Med.* Lond. 913 Aug. By Zentrabl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Examination of the puerperal uterus does not give a satisfactory answer to the above question since it shows an abnormally hypertrophied condition of the organ and only microscopic examination of the non-functioning uterus could settle it. Torre made such a microscopic study of the uterus of the children and animals and came to the conclusion that all the muscle bundles are interwoven and met — as Hebe asserts — divided into three separate layers. The infantile uterus is very similar to that of animals (dogs and rabbits). His statements are demonstrated by microphotographs.

Kuster II: Intra Uterine Amputation of the Femur with Occlusion of the Urethra and Rectum (Intra uterine Amputation des Oberschenkels mit Verschluss von Harnrohre und Mastdarm). *Zts. f. Gebu. u. G.* 43 193 554. By Zentrabl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

The author describes a foetus which was delivered spontaneously by a healthy primipara at full term and died a few hours after birth. The entire left lower extremity was absent. A bright red irregularly outlined granulating area was found in its place. The left half of the external genitalia the

external opening of the urethra and the anus were absent. The abdomen was enormously distended. A sausage-shaped hard mass crossed the middle of the granulating area parallel to the longitudinal axis of the body. It was the occluded and dilated rectum. The granulations extended externally over the muscles of the pelvis and the lower abdomen. On post mortem examination the urinary bladder was found very much distended reaching up to the border of the liver which was abnormally high. The urethra was 1 cm long, not dilated and terminated in a blind pouch beneath the skin. The rectum and sigmoid were enormously distended with flatus and meconium. A rupture threatened to take place between the rectum and sigmoid flexure. The other abdominal organs were normal, also the internal female genital organs.

The probable cause was an amniotic band. The latter was formed between the legs in the genital cleft. The time of amputation was between the end of the third month and the end of the fifth or sixth month. The placenta had been examined superficially and thrown away by the midwife. The amputated leg may have been lost with the blood. The defective epidermization of the granulating surface was due to an adhesion of the wound with the amniotic sac. The adhesions broke during labor which fact was verified microscopically. HIASZOC

Schröder II: The Late Results of Obstetric Procedure (Die Späterfolge geburtshilflicher Operationen). *Monatsschr. f. d. ges. Geburtsh. u. G.* 43 193 555. By Zentrabl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Schröder investigated the material at the Bonner Gynecologic Clinic from 1893 to 1905 in regard to the fate of the children delivered by caesarean section or premature labor for contracted pelvis. The investigations extend to 1 1/4 years after birth. He showed that of the children delivered by premature labor the maternal mortality was 2.54 per cent and the foetal mortality 43.69 per cent before leaving the clinic. Over one-half of the children, or up to 60.5 per cent died within 1 1/4 years. The figures are a little better for caesarean section. The maternal mortality here was 6.57 per cent and the foetal mortality incident to delivery was 12.5 per cent. The number of children who died within 1 1/4 years amounted to 42.5 per cent. The principal cause of this sad condition of affairs according to the author is poverty of the parents and the lack of breast feeding. Remedy for this condition would have to be applied in that direction if success is to be attained. The statistical investigation also showed that the fate of illegitimate children is about the same as that of children born in wedlock. The author believes, in view of these bad results that in cases of contracted pelvis the life of the mother ought to be considered first. Craniotomy should be performed on the living child rather than subject the mother to a serious obstetrical operation which in many cases, will decrease her working capacity and at best is doubtful in its results. WIEBER.

GENITO-URINARY SURGERY

KIDNEY AND URETER

Pilcher P M. Exactness in Diagnosis and Conservation in Treatment of Renal Calculus. *A Surg Phila* 1913 1vii 616

By Surg. Gynec & Obst

The author believes that the ureter opening, as a rule shows enough changes to determine which kidney is affected. If a calculus is so small as not to be indicated by repeated X-ray examinations it is probably small enough to pass without surgical interference. The radiograph helps materially in determining the type of operation. If the urine is loaded with calcium oxalate crystals and the X-ray shows a stone below the free border of the ribs, a lumbar incision is indicated. If the radiograph shows a triangular stone with the apex pointing upward or downward and there is an excess of phosphates in the urine such a stone is phosphatic and operation is indicated.

The author says that there are more renal calculi passed into the bladder and through the urethra than ever remain imprisoned in the kidney. Pyelolithotomy is indicated when the stone is within the pelvis of the kidney or the first portion of the ureter or in the lower calices of the kidney provided the pelvis is dilated. Nephrotomy is indicated if the kidney is worth saving and suppurative pyelonephritis is not present. Urinary fistula does not follow operation provided the ureter is unobstructed.

B S BAKER

Lejars and Rubens-Duval: Congenital Non-Pathological Prolapsed Kidney (Contribution à l'étude des reins ectopiques congénitaux non pathologiques). *Rev d chir* 913 xlii 544

By Zentralbl f d ges Gynäk u Geburtsh u Grenzgeb

The authors have had two cases of congenital ectopic kidney and in connection with the description of them call attention to the errors of diagnosis to which they may give rise and to the histological lesions and signs of degeneration found in them.

A woman of 32 was sent to the hospital for pain in the right side of the abdomen and vomiting. These crises recurred twice in three months and a diagnosis was made of appendicitis and then of cyst of the ovary or of fibroma with a twisted pedicle. On operation a prolapsed kidney as large as a fist was found and removed followed by recovery.

A woman of 39 had suffered for a year with attacks of pain in the left side of the abdomen accompanied several times by intestinal occlusion. Operation was performed with a probable diagnosis of tumor of the colon. An ectopic kidney was found and removed and the patient recovered.

The first kidney was ovoid in form and had small

yellow spots scattered over it. These yellow spots corresponded to masses of clear cells located in the interstitial connective tissue of the kidney at places where it had become sclerotic. There were bands of sclerosis radiating from the medullary substance to the capsule. Glomeruli and urinary tubules both shared in this process of fibrous transformation. The clear cells, scattered through this thickened connective tissue were round or polyhedral in form made up of a finely vascular or areolar protoplasm. The nuclei were round in the small cells, smaller angular or star shaped in the larger ones. These cells resembled inclusions of suprarenal tissue.

However their location exclusively in the zones of sclerosis and their substitution for the cells of the renal tubules would lead one to consider them modified kidney cells. They were not cells undergoing degeneration; they were multiplying and were filled with products of cellular activity. The authors think that these cells were becoming adapted to a new function interfered with in their function of external secretion, they were functioning as cells with an internal secretion. Carrying this hypothesis further they conclude that the new growth of clear cells considered a hypernephroma, is often only a malignant degeneration of the internal secretory element of the kidney.

In the second kidney there was a very marked dilatation of the entire system of urinary tubules, a slight beginning sclerosis and a development of clear interstitial cells which was as yet only slightly advanced. They have collected from the literature a number of cases of errors of diagnosis which ectopic kidneys have given rise to: tumors of the adrena, cyst of the ovary, salpingitis, fibrous hematometria, which have been found on operation to be ectopic kidneys. When genital anomalies are present the character of the tumor should awaken a suspicion of ectopic kidney.

Nephrectomy is the preferable operation. However operation often has to be performed at once and nephrectomy without a preceding functional examination of the kidney is dangerous. It would be better to delay nephrectomy until the functional capacity of the other kidney is determined. J. OBERVIER

Rupert R R. Irregular Kidney Vessels Found in 50 Cadavers. *J Gynec & Obst* 1913 xvii 580

By Surg. Gynec & Obst

In the original article Rupert makes but a statement. With few exceptions text books evade references to anomalies of vascularization of any gland. The literature is somewhat meager as the author of each article reports cases in which unexpected anomalies of the arterial system usually were

found incident to renal operations, and statistics are based upon surgical cases where only the blood supply of one kidney is seen. Of 50 cadavers, 35 cadavers (70 per cent) showed either a uni or a bilateral anomaly of the artery or the vein on both.

From a surgical standpoint with two like organs in the body the author believes that statistics should be based upon the number of cadavers or patients in which such anomalies are found and not upon the number of organs because both organs (kidneys) are never removed.

The author found

13 cadavers with anomaly on left side

11 cadavers with anomaly on right side

10 cadavers with anomaly on both sides

Only one cadaver had anomalous veins having two on the right both leaving the hilum of the kidney.

The author's conclusions are that (1) Anomalous renal vessels are more frequent than generally supposed especially in the arteries and (2) veins are as important as arteries for an account of the thinness of their walls and absence of pulsation they are difficult to differentiate from an adhesion unless within the field of vision.

Krotoszyner Valu of Pyelography for the Diagnosis of Hydronephrosis. *Clinical Medicine* 1913 31 435 By Surg. Gynec. & Obst.

The author shows the value and use of pyelography in three cases of hydronephrosis.

In the first case a tentative diagnosis of left-sided nephritis was made and from the comparatively slight deterioration of renal function a nephrectomy seemed to be contra-indicated. Pyelography made the correct diagnosis and nephrectomy as treatment was the proper procedure. In the second a diagnosis of left-sided pyonephrosis a sequel to a probably congenital hydronephrosis could have been fairly established by other urological methods. Yet pyelography indicated the extension of the destructive process clearly pointing to the necessity of a nephrectomy and not a preliminary nephrotomy. In the third case pyelography demonstrated a normal renal pelvis and calices, except a slight dilatation of the lowest one and with these pyelographic findings operative interference was not advised in a short time although two skinograms proved negative. A small calculus was passed.

Krotoszyner's work was not satisfactory until he began using shadow casting solutions of comparatively high concentration as a 25 per cent solution of cagentos. He uses the moderate Trendelenburg position to permit the solution to gra-tate into all renal cavities existing and the taking of a radiograph while the injection is continued under gentle pressure. As a rule he uses 8 to 15 ccm. although 6 ounce has been used in some cases.

The following are his conclusions (1) The diagnosis of hydronephrosis is materially aided and in some instances is only feasible by pyelography (2) It offers a valuable guide to the method of treat-

ment or operative procedure to be followed in a given case. (3) This method should be applied by a skilled operator and only on the basis of strict indications. Louis Gross

Bernstein H S: The Incidence of Renal Involvement in Pulmonary Tuberculosis. *Albany Medical Journal* 1913 XXXI 665 By Surg. Gynec. & Obst.

In order to prove a tubercle bacilluria without apparent tubercular involvement of the kidneys, a series of one hundred patients were selected in which the tubercle bacillus had been isolated in the sputum. A morning specimen of urine was obtained and allowed to stand for two hours the upper layers being then decanted into a beaker while the lower layers were centrifuged. The centrifugized sediments were examined for tubercle bacilli and then injected into guinea pigs—two pigs for each patient. One guinea pig was killed and examined at the end of four weeks while the second was examined at eight weeks.

Of this series ten were positive for tuberculosis the far advanced cases of pulmonary tuberculosis providing the larger number. Six specimens of urine did not show albumin or casts two of which however did show some pus-cells four showed albumin one containing a marked number of pus cells. Three cases were cystoscoped and in each case the ureteral urines were positive for tubercle bacilli in one or both kidneys. The post mortem records of the Bender Hygienic Laboratory show three hundred and twenty-one cases of pulmonary tuberculosis with ten tubercular kidneys or 3.4 per cent.

In conclusion therefore 10 per cent of the cases examined gave positive guinea pig results. Urinary symptoms were absent subsequent inoculation in five cases gave the same findings six of the urines were negative for albumin three sediments contained pus. Cystoscopy corroborated the findings of tubercle bacilli in three cases in urine directly from the kidney. Post mortem records showed 3.4 per cent of kidney involvement in pulmonary tuberculosis. C. D. PICKRELL

Moskaleff M N Etiology of Pyelonephritis. (Zur Lehre der Pyelonephritologie) *Amer. Urological Journal* 1913 11 1 By Zentralbl. f. d. ges. Chir. u. Gyn. geb.

In order to determine the causative organisms in pyelonephritis the author examined 9 cases bacteriologically and isolated 16 different species of bacteria among which bacterium coli communis, proteus, staphylococcus aureus and albus, and streptococcus were shown to be pathological by animal experiments. The one most frequently demonstrated was the colon bacillus which agrees with the findings of other authors. Sixty-five rabbits and guinea pigs were infected with the bacteria from cases of pyelonephritis and in 42 of the cases the kidneys were examined histologically. The conclusions are:

1 There is no specific microbe for pyelonephritis. It is caused by the ordinary pus producing organisms which find particularly favorable soil for development in the local conditions of the organ affected.

2 There are four modes of infection for the kidney by direct injury hematogenous, lymphogenous and infection ascending from the bladder.

In 11 experiments the results in 6 justify the conclusion that a single injection of pus producing organisms into the ureter as far as the kidney pelvis does not produce pyelonephritis. In 8 experiments 6 were positive and led to the conclusion that the insertion of pus producing organisms into the ureter and closing it causes pyelonephritis of the affected side. In 33 experiments in which pus producing organisms were injected into the bladder in 9 cases there was one infection with continuous closure of the urethra in 8 cases one infection with temporary closure of the urethra, in 5 cases one infection with the flow of urine not interfered with in 11 cases repeated injections with temporary closure of the urethra each time.

These experiments showed that the longer the flow of urine was interfered with the earlier and more extensive were the changes in the kidney parenchyma. But the three series of experiments show that there is no ascending pyelonephritis in the true sense of the word. By inflammatory processes in the ureter or bladder wall they are rendered easily penetrable by the bacteria which enter the lymph spaces and from them the lymphatic system.

Status in the lymphatics may cause a retrograde transference to the lymph-spaces of the kidneys or as is more probable they may be carried through the thoracic duct into the blood stream and enter the kidney through the blood. Yet from the primary inflammatory focus in the bladder or ureter small thrombi may cause direct metastases in the kidney without the intervention of the lymphatic system. Among the conditions which favor kidney infection the author tested the effect of trauma. By means of an apparatus arranged by the author the animals were given uniform blows over the left kidney through the abdominal wall. After this the infectious material was applied. Fifteen times it was given intravenously both kidneys were equally affected the trauma apparently making no difference. 11 times it was given through the injured skin here the kidney affection seemed to select the injured side. 16 times it was given subcutaneously and the injured kidney was the seat of the resulting inflammation. He tested the influence of ligation of the ureter in two ways in 14 cases the animal was infected intravenously in 10 cases, subcutaneously and the kidney with the ligated ureter proved to be more susceptible to infection. STROMBERG

Kretschmer H. L. Pyelitis Follicularis 5 J
Gynec & Obst 9 3 xvi 6 J

By Surg. Gynec. & Obst.

The author tells of a rare form of pyelitis, the pathological condition of which has also been re-

ported under the name of pyelitis granulosa. His report is based on one case and a review of the literature on the subject of which the author is able to collect only seven clinical cases, which with his reported case makes a total of eight cases reported to date.

The patient had been treated for malaria for a long time. Cystoscopic examination revealed a pus infection in the left kidney and a nephrectomy was carried out. The kidney removed at operation showed two unusually interesting conditions as follows: (1) An arrested development of the kidney the entire kidney weighing only 15 grams. (2) The kidney pelvis showed a granular condition due to the presence of small nodules beneath the mucous membrane. The nodules were excised and careful histological examination proved them to be true lymph follicles, as they showed the presence of germinal centers.

The article considers the associated conditions found in these eight cases and the pathogenesis also. The views of pathologists are given in detail as well as the views of Taddai, Soleri, Zanellum, Loewenhardt, Paschalis, and Von Frisch. In the three cases reported by Von Frisch and in the cases of Taddai, Soleri and Zanellum, hematuria was a prominent symptom. In the author's case the hematuria was absent. In one of Von Frisch's cases and in the author's case the presence of a colon bacillus infection was demonstrated.

Stevens. Partial Bilateral Nephrectomy in a Case of Calculous Pyonephrosis. *Calif St J Med*
9 3 xi, 447. By Surg. Gynec. & Obst.

The author details minutely the history of this unique case, to prove to what extent renal tissue may be removed and how little of the parenchyma is required for satisfactory function.

The patient was a barber 19 years old, who had complained for six months of pain in the left hypochondrium, the urine was cloudy there were pus cells and blood cells but no subjective urinary symptoms. Cystoscopy warranted a diagnosis of chronic cystitis. Ureteral catheterization showed cloudy urine from both ureters more marked on the right side. Microscopically the right urine contained a larger amount of albumin than the left, a few blood-cells and degenerated round epithelial cells on both sides. Bacteriologically the colon bacilli functional tests demonstrated decrease especially on the right side. Radiography showed eight typical stone shadows on the right side and six on the left. Blood cryoscopy 0 556.

As the right kidney appeared to be in a worse condition it was attacked first and, on exposure both poles were found to be mere shells with a small amount of healthy tissue in the center. The diseased portion was removed with the major portion of the enormously dilated pelvis. Two months later the left side was resected in the same manner. The patient now urinates at regular intervals. The urine is almost clear but contains a small amount of

pu visible microscopically. The kidney pelvis were washed with a light silver solution at intervals of 10 to 14 days with good results. The author failed to find any report in the literature of bilateral resections.

LOUIS GROSS

Krotos yner M. Untoward Results of Nephrolithotomy. *J Am M A* 913 1st 1933
By S R Gynec & Ob t

The author of this paper states that the mortality of nephrolithotomy according to collected statistics from the clinical centers of the world is less than 4 per cent in aseptic and moderately infected stone kidneys. According to Hahn and Cunningham the mortality of 222 cases 135 of which were aseptic and 87 infected was 2.5 and 18.3 per cent respectively. As to hemorrhage after nephrolithotomy the author quotes one case from Israel's clinic of acute hemorrhage setting in with a twenty four hours. Much more frequent however is late hemorrhage which occurs several days or even weeks after the operation, occasionally preceded by moderate or insignificant bleeding into the bladder or the wound.

Another complication of less frequency is perineal infection and septic nephritis. In regard to fistula as a complication he says. While closure of the post-operative fistula may follow expectant or conservative local treatment secondary nephrectomy is nevertheless in many instances, the only effective means of relieving the patient from his distressing condition. It should be performed without too long delay.

He commends the practice of pyelotomy and primary nephrectomy in preference to nephrolithotomy. The obvious advantages over the latter operation are preservation of the kidney operated on good view of the renal calices and pelvis and comparatively small functional impairment. While pyelotomy is only applicable in the comparatively small group of aseptic and moderately infected cases primary nephrectomy ought to gain more and more ground as a curative method of advanced pyonephrotic stone kidneys, in which the other organ is found to be functionally and anatomically intact. At Israel's clinic the operative mortality for nephrectomy in infected cases was double as large as that of primary nephrectomy 22 per cent against 11 per cent.

I S KOLL

Caulk J R. Uterovesical Cysts, an Operative Procedure for Their Relief. *J Am M A* 913 1st 1933
By Surg Gynec & Obst

Before the advent of the cystoscope the subject of uterovesical cysts, cystic dilations of the lower ureter or intravesical ballooning was one that was little known. Until 1898 Englisch was able to collect but sixteen authentic cases and Adrian in 1905 reported fifty two cases collected from the literature of this subject. The observations were mostly necropsy findings or accidental discoveries during the course of vesical operations. Of the fifty two cases which Adrian collected only twelve were

diagnosed correctly during life. Since the advent of the cystoscope and more thorough training in the interpretation of cystoscopic pictures this condition is becoming more generally recognized. The literature seems to show that these dilations are more frequent in females than in males. Englisch in his series reports ten cases in females and six in males. Cases have been observed in patients ranging from six weeks to sixty two years of age. All authors are agreed that the cyst wall is composed of two mucous layers that of the bladder and that of the ureter. A controversy has arisen concerning the intervening structure. The majority of authorities have found only fibrous tissue between the two mucous surfaces a few however have noticed muscle tissue. Stones have also been reported within the cyst (Freyer).

The operations reported in the literature have been of two kinds, the suprapubic and the endovesical.

The suprapubic operations which have been described have been (1) pitting the cyst and suturing lengthwise the two mucous surfaces, as in Adrian's case (2) the resection of cysts with a circular suture of the two mucous surfaces (3) the hernia operation described by Young and utilized in his case of a uterovesical cyst within a diverticulum.

The endovesical operations have consisted in the splitting of the cyst at its ureteral orifice by means of a knife or scissors. Cases of this kind have been reported by Kelly Pawlik Albarran Barringer and others. Results in some of these cases have been satisfactory. The objection to this procedure has been that recontraction of the orifice has been frequent and rapid. Pawlik and Kelly mention this in their report and advise repeated dilatations similar to those utilized in cases of urethral stricture. Dilatation was done 112 times in Pawlik's case to prevent contraction.

A summary of the features of interest of six cases treated by the author is as follows. The ages ranged from 6 to 46 years. Five of the patients were women and one was a man. Five of the cysts were located on the right side one on the left side. One was associated with double ureter and seemed to be the only case which could be definitely classified as of congenital origin the other five cases presented evidences sufficiently clear to allow them to be tabulated as acquired abnormalities. Of these five cases one was secondary to a uterovesical anastomosis one resulted from inflammatory changes around the ureteral orifice secondary to tuberculosis one appeared in the course of a long standing calculous pyonephrosis one presented the history of the passage of two stones from the kidney and the last the most recent case was secondary to a healed ulcer around the orifice due to a colon cystitis. It seems convincing therefore that not all uterovesical cysts are congenital as some authors state on the contrary they seem more frequently to be acquired.

The endovesical operations which have been

employed have consisted merely in slitting the orifice of the ureter but all the observers who have utilized this method have reported rapid reformation of the structure at the orifice as occurred in case one with the first operation. Several writers state that this slitting operation is a difficult procedure. The author says however that even the resection of the cyst under the guidance of the cystoscope was executed simply and offered no particular obstacles. In the male the removal could be done by means of a rongeur cystoscope.

The author is of the opinion that the endovesical slitting operation offers no permanent benefit. In two of his cases the patients have undergone nephrectomy one for tuberculosis of the kidney the other for a calculus pyonephrosis. The ureterovesical cyst had entirely disappeared following the nephrectomy for tuberculosis. The operation which was employed in cases one and two the total resection of the cyst under the guidance of the cystoscope is a method which seems to offer very satisfactory results. One of the patients remained well for a year without evidences of obstruction. The other patient has remained perfectly well for two years and has a patent orifice through which a No. 7 ureteral catheter passes easily.

The suprapubic operations, whether slitting the orifice longitudinally with suture of the two mucous surfaces or the circular amputation of the cyst with suture of the two surfaces, or the hernia operation employed by Young in his case are more extensive and more radical procedures and possibly offer better curative results. The author is of the opinion however that the chances of recontraction are about as great with these methods as in the procedure which was employed in his two cases of total resection with denudation of a large area around the ureteral orifice. The results in these cases seem to show at least, that the procedure may offer relief for two years or more and the author believes that since the operation is a minor one done without general anesthesia, and is simple in technique and devoid of danger it should be the operation of choice in many cases. He considers the suprapubic method too radical as the initial operation in most cases particularly in women. H. A. MOORE

Elisendrach D. N. The Repair of Defects of the Ureter. *J Am M Ass* 913 11, 694.
By Surg. Gynec. & Obst.

The author sums up the various methods that have been previously used for the anastomosis of severed ends of the ureter particularly lauding the method of Van Hook by which it is possible to unite a gap of 3 1/2 inches. The structures which have previously been employed for filling in the portion of the tube that has been destroyed are segments of an artery vein segment of the horn of a dog's uterus (fallopian tube) and segments of bowel or vermiform appendix. The use of these structures in most instances has not given satisfactory results probably owing to the fact that the necrosis of the

interposed tissue is due to the irritation produced by the urine. The author in his experimental work has used a piece of the urinary bladder taken from the fundus of the vesica.

His conclusions are based upon twelve experiments. He removed one inch of the ureter and interposed the piece of bladder the technique of which he describes in detail.

He divides the results obtained into three groups.
1 In several of the dogs the proximal portion of the ureter became adherent to the abdominal incision and a urinary fistula was established.

2 In six dogs the transplanted segment of the bladder became necrotic because union had occurred between the ends of the ureter and the transplant with subsequent leakage of urine.

3 The third group includes those cases in which the grafts survived at least temporarily but when the dogs were examined from four to six weeks after operation it was found that the transplanted bladder segment had contracted and had become converted into a mass of cicatricial tissue.

The results, therefore are practically the same as those of other investigators who have employed segments of blood vessels, bowel appendix and uterine horn. I. S. KOTZ.

Beck C. The Implantation of the Ureters into the Large Bowel. *J Am M Ass* 1913, 12, 69.
By Surg. Gynec. & Obst.

Beck gives as the chief indications for transplantation of the ureters into the bowel: (1) Injury of the ureter of such a nature that it can neither be sutured again nor implanted into the bladder. (2) fistula of the ureter. (3) total cystectomy. (4) ectopy of the bladder.

This operation has not gained an enthusiastic following because of many drawbacks chiefly ascending infection of the kidneys and the difficulty of control of urination. The methods of implantation that have been used are mainly four.

1 Taking along a part of the bladder with the ureter for transplant union.

2 The direct union of the wall of the ureter to the wall of the bowel. This method may be followed by peritonitis due to pulling out of the sutures.

3 Boari's method where a small button on the principle of the Murphy button is used.

4 Oblique implantation of the ureter into the bowel by a procedure similar to the operation described by Witzel for oblique gastrostomy. This is the method the author has modified and used in the two cases described. The modification consists essentially in implanting the ureter so that it dangles with its free portion in the bowel the opening of the ureter being made wide by slitting it open one-quarter of an inch. He hopes thereby to prevent infection of the kidney and further that the lumen will not be included in the cicatrix of the bowel and will remain patulous.

The first of the two cases reported was a male

aged 27 with tuberculosis of the bladder and upon whom suprapubic drainage had been done several months previously to relieve hematuria and stranguary. The right ureter was implanted into the cecum, and the left ureter into the sigmoid. The patient improved for some time but died eighteen months after operation with tubercular involvement of the lungs and of both kidneys. The right ureter was found dangling free in the lumen of the bowel. The left ureter was much distended its orifice into the bowel being obliterated. The right kidney was partly normal in other parts it showed acute and chronic inflammation. The left kidney was almost entirely transformed into necrotic tissue. Microscopically both kidneys showed amyloid degeneration a bad infiltration of the interstitial tissues with quantities of bacteria and cocci. The bowel below the place of implantation showed a transformation of the epithelium into pavement epithelium much broken up on the surface.

The second patient was a male, aged 60. The operation which was done only a few months before he reported was for an intractable suppuration and fistula of the bladder following suprapubic operation for stone low down on the ureter. This operation differed from the one formerly described in that the right ureter was implanted into the appendix—an end-to-end anastomosis. Although symptomatically improved, the author believes that in time this patient too will develop pyelitis.

Beck concludes that in tuberculosis of the bladder a permanent implantation into the bowel is only palliative, but the method described promises a longer period of freedom from pyelitis than does any other. In more favorable cases a reimplantation into the bladder may be considered after the viscus has recovered.

A. NELKEY

BLADDER URETHRA AND PENIS

Young, H. H. The Present Status of the Diagnosis and Treatment of Vesical Tumors. *J. Am. Med. Assn.* 9 3 Jan. 857.

By S. R. Gynec & Obst.

This study of 117 cases of vesical tumors emphasizes the fact that benign papillomas of the bladder are relatively infrequent 17 per cent in this series and that unless the benign cases are cured at operation, they almost always become malignant finally. The benign cases can be very satisfactorily treated with the high frequency current.

The malignant cases demand radical resection and cauterization which indicates the importance of an early and correct diagnosis. This is best made by microscopical examination of a piece of the tumor removed by means of Young's cystoscopic rongeur.

A tumor may be benign on the surface but malignant at the base so that it is important to get a deep piece for examination. Young groups and summarizes the cases according to the operative treatments employed as follows:

1. Suprapubic excisions forty seven cases

2. Fulguration nineteen cases

3. Suprapubic drainage twenty two cases.

4. Suprapubic partial excision with destruction of the base by cautery or fulguration five cases

5. No treatment twenty-eight cases

Excision as usually carried out is utterly inadequate and is followed by prompt recurrence in both benign and malignant cases. The cautery is an extremely valuable agent in conjunction with suprapubic or interperitoneal operations and when it has been thoroughly applied even in apparently hopeless cases some brilliant cures have been obtained.

Carcinoma of the bladder except in very extensive cases is best treated by suprapubic resection of the bladder leaving a wide area of healthy wall around the tumor the cautery to be used if possible ureter transplanted if necessary and the peritoneum excised when the tumor involves that portion of the bladder. Intrapertoneal operations are rarely necessary except in tumors of the vertex and posterior wall, as an excellent view of the bladder can be obtained by an extensive median incision wide separation of the recti muscles upward displacement of the peritoneum a long incision into the bladder and good retraction. The use of 50 per cent resorcin or alcohol, to kill any tumor particles which may have dropped into the bladder also seems desirable but a better plan is to thoroughly cauterize the tumor before beginning the resection of the bladder.

FRANK HODMAN

Ashcraft, L. T. The Value of the D Arsonval Current in the Treatment of Benign and Malignant Tumors of the Urinary Bladder Through the Operating Cystoscope. *Surg. Gynec. & Obst.* 1913, xvii, 636.

By Surg. Gynec. & Obst.

The author's experience with the Oudin and D Arsonval currents demonstrates the superiority of the D Arsonval current in the treatment of both benign and malignant tumors of the urinary bladder through the operating cystoscope. To compare their relative values he conducted a number of experiments with both currents on raw meat both in air and under water. As a result of the tests he adopted the D Arsonval current.

The technique is as follows. After cystoscopic preparation the patient is insulated from the metal table by means of asbestos and a leather cushion. A metal plate five by eight inches, is strapped to the body by linen tapes its position corresponding to the location of the tumor. The cord from the plate leads to the solenoid and returns through the solenoid to the cystoscope. The operator sits in front of the patient. The tumor is located with a Nitze cystoscope. A Wappler cystoscope is then introduced and the insulated copper wire is inserted through its tunnel and projected into the center of the growth from 1 mm. to 5 mm. according to its depth. Each seance consists of at least six applications of fifteen seconds each with a rest of fifteen

seconds and at least two areas being treated. The fluid is then withdrawn and any shreds saved for microscopical examination and the bladder washed out with a boric acid solution. The treatment is repeated in from seven to ten days, depending upon the amount of reaction. He advises being on the lookout for daughter tumors which may indicate involvement of the ureters and kidneys.

The author draws the following conclusions:

1. That the D Arsonval current is superior to the Oudin in the treatment of both benign and malignant tumors.

2. That the Oudin current stimulates malignant growths.

3. That in border line cases he demonstrates the value of the D Arsonval current.

4. That the value of the D Arsonval current in malignant cases remains to be proven.

5. That the D Arsonval current does more for bladder tumors than surgery.

André: Electro-Coagulation in Tumors of the Bladder (*De l'électro-coagulation dans les tumeurs de la vessie*). *Tr C g des Ass frs c d' de l'ur* 1913 Oct. By Journal de Chirurgie.

André has used electro-coagulation as a treatment for papillomatous tumors of the bladder in 7 cases. The current was about 300 ma. A Loewenstein's conducting sound was used with a caliber of 8 Charnière with an ordinary catheterizing cystoscope the duration of application at each sitting being from 30 seconds to one and one half minutes with frequent interruptions of the current. The point of contact of the conductor was also frequently changed so as to cauterize as many points as possible.

In 4 cases the tumor was solitary in the other three there were two or three. Four cases were recurrences of tumors that had previously been operated on, three cases had never been operated on. The size of the tumors varied from that of a pea to that of a nut. In the small and medium sized tumors one treatment was sufficient to destroy the tumor in the larger ones several treatments were necessary.

This procedure which is harmless if used carefully seems to be very effective and capable of giving excellent results. It avoids numerous cutting operations and moreover allows the physician to watch for and destroy recurrences in the very beginning it is not painful and patients accept it very readily. It may be repeated several times on the same patient, which is neither an advantage over a cutting peritonitis and it does not keep the patient in bed—he can go home after each treatment.

J. DEMOY

Pilcher F. M. A Consideration of Twenty Four Cases of Tumor of the Bladder and Conclusions as to Appropriate Methods of Treatment. *N Y M J Med* 9 3 1913 58.

By Surg. Gynec. & Obst.

This paper is based on a series of twenty four cases which have come under the personal care of

the author and he divides them into three groups: (1) Inoperable cases, (2) extensive resection of the bladder and (3) cautery operation.

Two of these cases are unusually interesting and might be briefly quoted. In case eight the patient had been operated on twice for papillomata of the bladder. After the last operation a large ulcer remained which occupied the trigone and would not heal. The bladder was opened from above and the bipolar high frequency spark applied. The patient's bladder was perfectly normal nine months later.

In case nine the patient had had papillomata of the bladder removed three years previous. Microscopical examination showed these growths to be adenocarcinomata. Two years later there appeared a recurrent growth on the anterior wall of the bladder in the scar of the suprapubic wound. This was treated with a bipolar spark under general anesthesia and the growth entirely disappeared. At the present writing more than three years after the original operation the patient shows signs of further trouble in the bladder but no growth has as yet been located.

These two cases surely demonstrate the value of a high frequency when other methods of treatment fail as in the first mentioned case. The author does not favor extensive resection of the bladder as in his own experience it has been followed by recurrence in nearly every case and he has abandoned the intra-abdominal operation for less radical measures. The present method of treatment necessitates destruction of the tumor mass by the actual cautery and deep penetration of the base with a bipolar spark.

HERMAN L. KARRSOM

Judd E. S. Non Papillary Benign Tumors of the Bladder. *T Western Surg Ass., St. Louis*, 1913 Dec. By Surg. Gynec. & Obst.

Judd notes that out of 164 neoplasms of the bladder operated on in the Mayo Clinic, two were of the non papillary benign type springing from the muscular layer of the bladder.

In a review of the literature he finds 30 similar cases previously reported. In most of the reported cases, bleeding was the first and most marked symptom. Bleeding came apparently from the congested mucous membrane of the entire bladder but especially that covering the tumor. These muscular tumors extend into the bladder and outward into the peritoneal cavity. The point of origin of the two cases herein reported was close to the meatus of the urethra—both were pedunculated and both were removed suprapubically. The patients made uneventful recoveries and have been well six years and one and three fourths years respectively.

Pathologically the tumors were covered by stratified mucous membrane similar to the mucosa of the bladder. They were composed of smooth muscle fibers and fibrous connective tissue and their appearance throughout was that of uterine myomata.

Beer E. Transperitoneal Resection of a Diverticulum of the Bladder. *A S G Phila* 913
In 634 By Surg Gynec & Obst

The author reports a case in which he resected a diverticulum by a modified transperitoneal method. Cystoscopy showed two normal ureter orifices from one of which purulent urine was obtained and from the other clear urine. A diverticulum could be seen and examined by the cystoscope. The residual urine was 20 to 26 ounces the bladder capacity 48 ounces. The filled bladder extended to the umbilicus. The X ray with collargol showed a diverticulum about as large as the bladder itself. Operation was decided upon because of the high mortality of unoperated cases. After washing the bladder the diverticulum was approached transperitoneally and easily dissected free. The large retroperitoneal space left by operation was drained by marsupialization. The patient made an uneventful recovery and twenty six days after the operation he was discharged cured. B S BARRINGER

MacGowan G. The Transverse Incision and Abdominal Fascia as a Method of Approach in Suprapubic Operations on the Bladder and the Prostate. *J Am M Soc* 93 In 1863
By Surg Gynec & Obst

As a result of personal experience in a large number of cases the author advocates a transverse incision through the skin superficial and deep fascia and through the sheath of the recti muscles. Thus he claims insures good exposure easy retraction and the avoidance of trauma to the space of Retzius infection of which in the author's opinion accounts for the greater mortality following suprapubic cystotomy than from the perineal route. The author's method of drainage after suprapubic cystotomy consists in the introduction of a large rubber tube which is fastened into the bladder by a purse string suture through which continuous irrigation is made. H L SAYFORD

Randall A. A Study of the Benign Polyps of the Male Urethra. *Surg Gynec & Obst* 93
548 By Surg Gynec & Obst

The author gives a critical study of the terminology used to designate the polypoid growths of the urethra following this with a classification based upon the examination of ten specimens all of which were studied by microscopical serial sections. The review of the literature shows the diversity of opinion entertained as to the true microscopical structure of the four commonly used terms to designate such growths, and the author attributes this to the attempt to retain a terminology based upon macroscopical examination only.

He concludes by retaining the word polyp as a generic term for the entire group of growths he advises eliminating the term carcinoma if the growths as they occur in the female he concludes the term condyloma as one has never been described as occurring

in the male urethra and retains the term papilloma restricting it to the type of growths which histologically show proliferating papillae.

He classifies the polyps of the male urethra into (1) Pure type or benign fibrous polyps (2) villous or papillomatous, type or benign villous polyps (3) glandular type or benign glandular polyps. He illustrates these types by reporting four cases of the first group two of the second and four of the third.

The greatest interest centers about the group of glandular polyps which have only rarely been observed and as pointed out by the author may have an important bearing on the etiology of the glandular hypertrophy as it occurs in prostatic enlargement.

Cruelthier L. Sensitized Virus Vaccination in Gonorrhea and Especially Its Complications. *La cri Lond* 1913 clxxx
By Surg Gynec & Obst

Cruelthier claims good results from the use of sensitized (Besredka) gonococcus vaccine in the treatment of epididymitis prostatitis metro salpingitis and gonorrheal rheumatism. The number of cases is not given. All the cases of epididymitis received no treatment other than the inoculations which were given subcutaneously at 48 hour intervals and repeated two or three times. The pain disappeared in from twelve to forty eight hours and the epididymis returned to normal size and sensitiveness after the third inoculation.

Utero adrenal complications of gonorrhea showed marked improvement in discharge in rigid and painful abdomen and in general health following two or three inoculations. Cases of acute and chronic gonorrheal rheumatism have yielded promptly to the treatment the striking features being the relief from pain and the speedy return of joint function. While the author thinks the best results are obtained in the treatment of the complications and the chronic states of gonococcus infections he nevertheless claims very good results in acute and chronic urethritis. All the acute cases were terminated in four weeks. In no instance was there severe reaction following the inoculations. C C WARRER

GENITAL ORGANS

Lespinnase V. D. Transplantation of the Testicle. *J Am M Ass* 93 In 869
By Surg Gynec & Obst

Lespinnase reviews the experimental work done in transplantation of the testicles which was usually successful in frogs and chicken in higher animals however failures prevail. In his own experiments he found that there was an immediate destruction of the spermatogenic cells but that the interstitial cells survived at least two months after which time most of the experimental animals were killed.

In the human case which he reports the patient had lost both testicles and also the power of erection. A piece of testicle removed for this purpose

from a live man was immediately transplanted to him and revived the power of erection within a few days after the implantation. The patient's power of erection was perfect a year and a half after the operation. Since that time the patient has not been observed.

Wilson, A. G. Treatment of Gonorrheal Epididymitis by Elser's Method. *Bull. M. J.* 1913
1: 1931. By Surg. Gynec. & Obst.

The cord on the affected side is encircled just above the testicle by a strip of lint one and a half inches wide which is earned around between the two testicles along the median raphe of the scrotum. Over the lint is applied a fine piece of rubber tubing which is secured by an artery forceps after it has been tightened to the required extent. This means that no pain results after the application. Instead the patients describe a comfortable warm sensation with immediate relief of pain. After a few moments the tissues assume a purplish color like that of a ripe plum. The treatment is applied the first day for an hour if it can be borne for that length of time the time is gradually increased up to eight hours a day. The longer the applications the shorter the duration of the disease.

Four cases in sailors treated by the usual old time methods required in all 62 days of treatment an average of 15 1/2 days each six treated by the hyperæmia method required only 44 days all together an average of but seven and one third days apiece or less than half the former time.

FAKTOV E. GARDNER

Schlosser H. Technique of Suprapubic Prostatectomy and Its After Treatment (Zur Technik der suprapubischen Prostataktomie und ihrer Nachbehandlung). *Frag. med. Wch. sch.* 1913
xxvii: 531. By Journal de Chirurgie.

The mortality of transvesical suprapubic prostatectomy has in recent years been reduced to less than 10 per cent. The cause of this decided improvement lies not so much in the improvement of operative technique as in the after treatment. The enucleation should be performed not as quickly as possible but as carefully so as to lessen the danger of hæmorrhage. The author has never seen any harmful results from dressing the bladder wound before the bleeding entirely ceases; he uses a very wide suprapubic bladder drain and in this way avoids the collection of coagula which stop up the drainage and the complications arising from hæmorrhage which he thinks are due much more to this cause than to the actual loss of blood.

The bladder should not be fastened superficially but deep down so as to avoid the formation of a fistula. The drainage tube should be in the upper angle of the bladder wound as far as possible from the symphysis and should be sutured so that it is water tight and in such a way that the bladder wall is invaginated as much as a thumbbreadth or more. In order to make this possible the peritoneum must

be carefully dissected off from the bladder wall over a space as large as a saucer so that there may be no danger of including any peritoneum. By using the broad drainage tube there is no possibility of a collection of fluid in the bladder so long as the tube remains in position. Schlosser irrigates as little as possible in the first few days after the operation. Irrigation is practiced only if the drainage tube becomes stopped up. The second indication for irrigation is the decomposition of urine in the bladder and especially in the bed of the prostate. But he thinks the irrigation itself may carry infected particles into the tissues. To be sure there is a collection of necrotic tissue in the bed of the prostate that must be removed but this can be done after a considerable time. Irrigation in the first few days after the operation is not necessary.

As the formation of a stricture at the site of a prostatectomy is not generally to be feared, he removes in the course of the enucleation not only the prostatic urethra but a large part of the mucous membrane covering the prostate. He recommends that the left index finger protected by a glove be introduced into the rectum as this makes the enucleation much easier. He opposes the use of a tampon in the bed of the prostate during the first few days. The bladder drain remains till the seventh or eighth day. On the sixth or seventh day a permanent catheter is inserted and the necrotic fragments are then washed out through the bladder drain after which the drain is removed and regular irrigations performed through the permanent catheter which remains until the fourteenth day. The ultimate results of this after treatment have been uniformly favorable. COLLIER

Marion, G. After Treatment of Suprapubic Prostatectomy (Sous-consuturés à la prostatectomie sus-pubienne). *J. d'ur.* 9: 3, 1913.
By Journal de Chirurgie.

Post-operative treatment is of the greatest importance in prostatectomy and Marion studies it in detail. It includes (1) Local treatment to secure the earliest possible healing of the suprapubic and vesicoprostatic wounds and to put the bladder in perfect condition. (2) general treatment. (3) treatment of complications.

Local treatment. The first indication is to stop hæmorrhage from the prostatic cavity. Marion tampons it with gauze sponges with tapes passing out of the bladder through the lumen of a Freyer's tube. This tampon is left in place for three days. The more or less frequent desire to urinate which is caused by the presence of the tampon, is relieved by suppositories of belladonna and morphine.

The sponges are removed the fourth day and the large Freyer's tube replaced by the largest sized Marion's tube. Every three or four days the drain is removed and replaced by a smaller one. The dressing is ordinarily changed only when the tube is changed.

About the twelfth day the hypogastric wound

has sufficiently recovered to establish permanent drainage. To be sure of the solidity of the closure of the bladder the sound should be kept in for 48 hours after the cessation of any discharge from the hypogastric wound. In some cases the vertical wound is closed in 12 days on an average however it requires 17 to 21 days and sometimes 25 to 30 days.

General treatment. This includes the treatment of shock immediately after the operation and care of the digestive and genito-urinary apparatus. The diet should be closely watched to avoid azotemia and chloruremia which may be caused by deficient nutrition.

Pulmonary complications are rare but it is well to have the patient sit up as soon as possible. To have him get up and walk early however is apt to do more harm than good as early walking frequently causes phlebitis of the lower limbs.

Complications. Secondary hemorrhage may appear from the tenth to the twelfth day from the separation of a prostatic scar it is very rare and is generally controlled by tamponing the prostatic cavity.

Infection of the abdominal wound may occur in patients who have had a cystitis. If suppuration reaches Retz's space drainage is necessary.

If the orifice in the bladder is not closed by the thirty fifth day surgical closure of the fistula is necessary. The most important point in this operation is the complete dissection of the bladder from the abdominal wall the vesical wound should be closed by suture in two layers.

Incontinence after recovery is met with some times. It is ordinarily orthostatic and generally yields on dilatation of the urethra.

Stricture of the urethra at its opening into the prostatic cavity is rare it may be remedied by progressive dilatation or internal urethrotomy.

Orchitis is exceptional if the vasa deferentia are ligated but is quite frequent if they are not especially after a permanent drainage tube is inserted but even if it occurs the drainage should be maintained.

Azotemia or chloruremia may appear after prostatectomy they are the symptoms of acute nephritis, often caused by the chloroform and should be treated dietetically.

Pyelonephritis is a serious condition and may be caused by manipulations of the bladder or urethra causing traumatism of the mucous membrane. Extreme care should be exercised in post-operative manipulations to avoid injuring or infecting the urinary passages.

Urinary infection generally yields readily if the bladder is well drained. A permanent drainage tube should be used in addition to the suprapubic drainage and continuous irrigation of the bladder gives excellent results.

There are various forms of phlebitis.

1. A common form is characterized by pain in the leg elevation of temperature and edema. It may reach the abdomen or involve the other leg. It is of long duration but generally recovers.

2. The infectious form in which the edema is less marked is generally limited to the leg but the elevation of temperature is greater and the general condition bad. This form is complicated by small infected emboli which produce a chill a rise in temperature and a worse general condition. A repetition of such emboli may cause death.

3. A deep form phlebitis of the periprostatic plexus is insidious and generally not recognized because not accompanied by any edema of the leg. The only symptoms which would lead to suspicion of its presence are a rise in temperature and a change in the general condition not explained in any other way. It is the most frequent cause of rapidly fatal emboli. J. TANTON

MISCELLANEOUS

Hinman F: An Experimental Study of the Antiseptic Value in the Urine of the Internal Use of Hexamethylenamine. *J Am Med Ass* 1913
In 160 By Surg. Gynec. & Obst.

This paper gives the results of 318 quantitative estimations of formalin in the urine of 116 patients getting hexamethylenamine by mouth (grains, xv to i d p c) and considers the important factors influencing the excretion of hexamethylenamine in the urine and the subsequent conversion of this into formalin. In the author's opinion hexamethylenamine has no antiseptic value and formalin can only be of value in a dilution of about 1 to 30,000 or stronger. He used a modification of Rimini's phenylhydrazin nitroprusside test for making the quantitative estimations of formalin.

Only four of the 116 cases failed to show formalin. In each of these four cases only one specimen was examined. The remaining 112 cases were positive for formalin at some one examination. Only eight cases revealed formalin in germicidal strength and five of these patients had been fed on acid sodium phosphate so that in only about 2 per cent of the usual cases did the urine give the 1 to 7,000 test at any one time. 25 per cent had formalin in amounts to give complete bacterial inhibition 55 per cent of the cases gave at some one examination a 1 to 30,000 test or better. 44 per cent of the cases although formalin was present at no time had this formalin in sufficient amount to furnish antiseptic benefit. Of the 318 examinations, 36 per cent were definitely antiseptic and of these only 17 per cent showed formalin in strength to give complete bacteriostasis and only 5 per cent were germicidal. 64 per cent had less than 1 to 30,000 and possessed no antiseptic value.

The findings in 33 cases in which the kidneys were definitely diseased do not indicate that disease of the kidneys exerts any influence whatsoever on the formalin content in the urine.

At the level of the kidney hexamethylenamine is of little or no antiseptic value, as indicated by the findings on 3 catheterized (ureteral) specimens only five of which showed formalin and only in a strength of about 1 to 60,000. The author explains

this slight conversion at the kidney by the lack of time necessary for formalin conversion in an acid medium.

The factors that influence the formalin content in the urine are of two kinds: those that influence hexamethylenamine excretion and those that influence hexamethylenamine conversion.

The size of the dose, the interval of administration and the character of the changes in the acid contents of the stomach are the important factors in excretion. Lavage of the stomach one half hour after feeding 10 grains of hexamethylenamine showed formalin in the stomach contents in the proportion of about 1 to 20,000.

In patients who had been given formalin by mouth but who had not been getting hexamethylenamine neither hexamethylenamine nor formalin were later found in the urine. The amount of hexamethylenamine broken up in the acid of the stomach therefore is that much loss for subsequent conversion in an acid urine. The feeding of salol-coated pills of hexamethylenamine so as to carry the hexamethylenamine beyond the stomach did not make an appreciable difference in the formalin content in the urine but the method is available for high gastric acidity or irritability.

With respect to the subsequent conversion of the hexamethylenamine in the urine the degree of urinary acidity is the most important factor. Using phenolphthalein as an indicator 10 ccm of urine were titrated against $\frac{1}{10}$ N NaOH to determine urinary acidity. This varied from 0.1 to 7.0 ccm, the average of the 131 examinations made being 3.3 ccm. 20 of the urines had an acidity of less than 1 ccm and of these 13 were negative for formalin and 12 others barely gave a test, whereas of the urines with an acidity of 3 ccm all showed formalin and with the exception of six cases all showed formalin in a dilution of 1 to 40,000 or better.

The importance of urinary acidity is further shown in the following observations:

1 The urine of a patient on hexamethylenamine if acid will after standing give a higher test for formalin than when fresh.

2 If hexamethylenamine is added to an acid urine it will be quickly converted into formalin. On the

other hand hexamethylenamine added to a neutral or alkaline urine shows none of this conversion.

3 The addition of sodium acid phosphates or of any acid, to the urine of a patient on hexamethylenamine negative for formalin will convert the hexamethylenamine present.

4 Increasing or decreasing the acidity of the urine of a patient through his diet causes a corresponding change in the formalin content of the urine.

The conclusions are that:

1 The conversion of hexamethylenamine into formalin is a simple chemical process which will readily occur in an acid medium but will not occur in an alkaline medium.

2 The amount of excretion of hexamethylenamine in the urine is influenced by the size of the dose, by the frequency of administration and by the character of the changes that occur in the acid contents of the stomach.

3 The amount of the subsequent conversion of this hexamethylenamine in the urine is dependent on the degree of urinary acidity, on the duration of exposure to the influence of this acidity and on the percentage concentration of the drug in it and in order to give formalin conversion in antiseptic amounts the urinary acidity should be greater than 2 ccm of tenth normal sodium hydroxide for 10 ccm of urine.

4 A low acidity may be temporarily increased by feeding certain acid producing drugs, and this acidity may often be maintained by giving these drugs alternately.

5 Disease of the kidney has no influence on the formalin content of the urine.

6 At the level of the kidneys, hexamethylenamine in doses of 5 grains three times a day has no antiseptic value.

7 Formalin present in the bladder urine in some amount in practice every case receiving 15 grains of hexamethylenamine by mouth three times a day but because of the great significance of urinary acidity this dosage is too small a routine from which to always expect a reasonable antiseptic benefit.

8 The allied hexamethylenamine compounds do not give greater antiseptic values than pure hexamethylenamine.

SURGERY OF THE EYE AND EAR

ETC

5 Asmann R. Inclusion Blepharitis in the New Born (Ein Beitrag zur Kenntnis der Inclusionblepharitis der Neugeborenen) *Die ärztliche med. Wochenschr.* 1913, 33, 221, 245

By Zentralblatt für die Gynäk. Geburtshilfe und Grenzgeb. About one-third of all the cases of blepharitis in the new born have hitherto shown no bacteriological findings. Different hypotheses were proposed to explain these questionable cases among which the so-called late infection of Heymann was the most generally accepted until it was found that the von Fraunhofer Halberstadt epithelial inclusions, the trichoma bodies were found more frequently in cases of blepharitis in the new born than in real trachoma. Experimental investigation finally led to the complete identification of these inclusion blepharitis with true trachoma. Further investigation showed however that inclusion blepharitis was an independent hitherto unknown disease.

The author from his 72 cases of blepharitis and blepharitis catarrh resembling trachoma comes to the following conclusions. Inclusion blepharitis forms almost half of all blepharitis. In this way the gap left by the negative bacteriological examination in so many cases of blepharitis is filled. Most late infections are those of inclusion blepharitis. These show a marked lack of bacteria, mixed infections with gonococci are rare. Inclusion blepharitis is distinguished from gonococcal blepharitis by its longer incubation period, 5 to 10 days, by its more seropurulent secretion, stronger tendency to hemorrhages from mucous membrane, by its protracted course and by the fact that it pares the cornea. Simple catarrh of the new born is not inclusion blepharitis. B. KELL.

Miller R. W.: Affections of the Eyes Resulting from Sinus Involvements. *Calif. St. J. Med.* 9, 3, 21, 45. By S. R. Gynec. & Obst.

The careful examination and treatment of the sinuses in ocular and nasal complaint makes it possible to plan the etiology and pathology of many ocular and nasal diseases.

Only after special care and repeated examination is it possible to discover the source of the trouble. In suppurative and closed sinuses as in cases of sinusitis. No part of the eye is exempt from secondary involvement from sinus diseases. The causes of organic ocular and orbital disease are (1) Mechanical or irritative (2) toxic (3) septic. These may result in hyperemia, hyperplasia or some type of inflammation.

The frequent occurrence of sinus inflammation

with ocular or orbital complication noted in the last few years in Los Angeles prompted the article. Ocular or orbital pain at some stage of the process must be regarded as one of the chief symptoms. The orbital pain is aggravated by muscular action of the eyes. The anatomical condition of the turbinate and nasal septum explains why sinus diseases are so generally bilateral. Miller intentionally omits the numerous diagnostic tests for sinusitis. It is his experience that ocular complications have been observed with far greater frequency in chronic than in acute sinus involvement. Numerous cases showed evidence of chronicity with acute exacerbation. Long continued closure from egress and ingress of air with its oxygen content seems to aggravate the condition of the involved sinus which maintains a constant swelling and bagginess, and eventually develops into hyperplasia with or without suppuration. This favors ocular complications, varying in degree from the mild to the pronounced type of intra-ocular suppuration.

He cites the case of a woman aged 35 who complained of feeling sand in her eyes and of being unable to use her eyes for close work. She had frontal headaches, slight conjunctival congestion and slight tenderness on pressure in the upper and inner orbital angles. The ophthalmoscope revealed a mild choroiditis in each eye. The refraction error was slight and she found no relief from wearing glasses. The anterior part of the right middle turbinate body was removed and a few days later the entire left turbinate was removed. Pus 2 cc in quantity was seen to flow from the ethmoid cells. The treatment was followed by marked relief.

EAR

Lynch R. G.: Congenital Absence of Both Ears. *Laryngoscope* 913 x 4, 1, 50.

By S. R. Gynec. & Obst.

The case reported by Lynch is that of a boy 12 years of age having 12 brothers and sisters all of whom appear to be normal in their development while the unfortunate subject of the paper had not even a sign or vestige of an auricle or ear on either side of his head. He being absolutely clean and smooth covering the ordinary site of the auricle and external auditory meatus.

In the nasopharynx a corresponding lack of development existed there was a prominence of the Eustachian tube and indeed no tube at all—no fossa of Rosenmüller. Although the doctor could elicit no evidence whatever of hearing by use of tuning forks or any form of extraneous noise the mother of the patient maintained that the boy

would imitate chickens and cows, would dance with joy when the piano was played and would run to the river bank when the steamboats whistled. Lynch reports this case as being the only instance of such a condition of which he has been able to find a record

H BEATTIE BROWN

Whiting, F. The Indications for the Labyrinth Operation. *N Y St J Med* 19 3 31 506

By Surg. Gynec. & Obst

The author states that though much has been accomplished in recent years by the critical study of the physiology of the labyrinth still the symptomatology of labyrinthitis, with its bearing upon the indications for operation is still an uncompleted study

He emphasizes the fact that while even a small amount of pus contained in the labyrinth is a constant menace to contiguous intracranial structures still some cases of purulent labyrinthitis heal spontaneously and consequently accurate diagnosis is necessary to anticipate a favorable outcome for operative procedures

He considers no operative interference indicated in either a circumscribed or a diffuse serous labyrinthitis unless it becomes converted into a purulent labyrinthitis, and though not in accord with the teachings of the Vienna school, the author believes that early operation in acute diffuse purulent labyrinthitis offers the patient a greater degree of security than delayed procedure especially when the acute labyrinthitis supervenes upon a chronic purulent otitis media. In cases of chronic diffuse purulent labyrinthitis he thinks there is no choice as to operation as the indications are for the labyrinth operation or none at all

ELLEN J PATTERSON

McKinney D R.: Cavernous Sinus Thrombosis Report of a Case. *Laryngosc* 46 913 XIII, 059

The patient a woman 31 years of age was treated for antrum trouble, which was relieved by irrigation. Later following a severe cold in the head her face swelled and she developed pain all over the right side of the face and above the right eye and foul smelling pus was occasionally discharged from the corresponding naris. Her temperature was 100.5° to 103 and morphia was required for the pain. The right antrum was discharging pus, and the swelling increased so that the upper lid of the right eye was closed and showed bluish congestion indicating blood stasis

The treatment consisted of an ice pack continuously and a 2 per cent cocaine spray with frequent irrigation of the right naris with a warm saturated solution of boric acid. The temperature fluctuated between 103 and 104 when it rose the patient became more or less delirious

Four days after the first examination her temperature became normal and she said she felt better than at any time since the beginning of the attack. Soon, however the temperature began to rise

delirium developed and the patient died in the afternoon of the same day H BEATTIE BROWN

Beck J C: Failures and Successes in Diagnosis and Surgical Intervention of Some Intracranial Diseases, Especially from the Standpoint of an Otolaryngologist with Report of Cases. *Illino M J* 1913 XIV 265

By Surg. Gynec. & Obst

Because of his firm conviction that lessons learned from failures contribute as much to the ultimate success of a surgeon as a recital of successes, the author has set forth and attempted to analyze both his failures and successes.

The conditions discussed are Sinus thrombosis meningitis, extradural abscess brain abscess, brain tumor hypophysis tumor intracranial hemorrhage with and without fracture of the skull gasserian ganglion affections—irretractable tic douloureux—external hydrocephalus and encephalocoele.

Of 38 cases of sinus thrombosis, either with or without complications, as buli and jugular involvement meningitis, brain abscess, and general sepsis, or some other general condition as pneumonia nephritis etc 26 recovered following operation. Of the 12 fatal cases 10 were complicated mostly by septic pneumonia which came practically moribund to the operating table the 2 remaining cases which were diagnosed early and apparently not complicated died from rapidly developing meningitis. Both of these cases were of the streptococcal type of infection

Of the 51 cases of meningitis of which the author had adequate records, 28 had spinal punctures and septic organisms were recovered from 12. The diagnosis of diffuse septic meningitis was made in 37 cases of the 51. Of these 37 cases 28 came to operation, either primarily as a nasal accessory sinus mastoid or some other local infection, as by way of the exposure of the meninges over the seat nearest the infection and finally the opening of the craters magna. Of the 14 remaining cases of meningitis either of the local, septic or serous type 12 recovered without operation and 2 died. This number does not include the local meningitis with brain abscess, sinus thrombosis etc. Of the 37 cases of diffuse septic meningitis, whether operated on or not, only 3 recovered

Of 6 extradural abscesses, 11 were found at the time of operating for mastoid sinus thrombosis, and frontal sinus disease 1 of these 16 cases recovered after operation. Of the 4 fatal cases 3 were operated on and complications arose on account of intradural abscess, meningitis, and general sepsis 1 case which was diagnosed, refused operation but a post-mortem examination revealed a large extradural abscess in the cerebellar region

Of 9 cases of intradural abscess 3 recovered. Both of these were in the temporo-phenoidal area and the operation was by way of the mastoid tegmen route. In neither case could there be any micro-organism recovered from the pus of the abscess

either in smear or culture. In one case the abscess followed a rapidly destructive mastoiditis in an influenza infection and the second occurred in the seventh week of a scarlet fever otitis media in a child aged 3 years. Of the 17 remaining cases 10 came to operation. 6 were in the cerebellar region, 2 frontoparietal and 2 temporosphenoidal. The 7 cases either refused operation or were too far advanced to be submitted to the operation.

Of 8 cases of brain tumor there was made a correct localization diagnosis in 5; this number not including gummata. The pathological types were cyst, osteoma or exostosis, fibrosarcoma, and glioma. The locations were 2 in the motor area, 1 occipital (supratentorially), 1 in the positive cerebellar angle, 1 frontoparietal, and 1 at the base of the frontal lobe. Five were operated on with a mortality of 75 per cent. In not a single instance did the roentgenogram reveal the tumor. Spinal punctures were made in 7 of the 8 cases, and only in 1 was there any increase in pressure, and in all there was a negative Noguchi globulin or Donné test present.

Besides several cases of acromegaly there were 3 cases of hypophysis tumor diagnosed only at operation or post mortem. 1 was erroneously diagnosed as cerebral tumor, the other 2 were diagnosed as nasopharyngeal fibrosarcoma.

There are three types of intracranial hemorrhage: (1) basal fracture, (2) fractures not including the base, (3) combined.

A case of intractable tic douloureux is cited in which the ganglion was completely removed, without giving the patient the expected relief.

The author reports one case each of external hydrocephalus and encephalocele with fatalities in both.

O. M. ROSS

Day E. W. Report of 8 Cases of Purulent Meningitis Operated Upon by the Haines Method Post Mortem Findings. *Laryngo scope* 9:3 xxiii, 1917. By S. R. Gynec & Obst.

Day gives due credit to Haines for originating a brilliant operation for the treatment of purulent

meningitis, and though it seemed to offer great possibilities as a curative measure, a sufficient number of cases has not as yet been reported to establish a conclusion as to its real value. The author reports twelve cases of suppurative meningitis treated by him, in nine of which he performed the Haines operation by drainage of the cisterna magna.

The author notes that in only one of his cases was there any evidence of edema of the fundal veins; neither was there any constantly increasing blood pressure. One case recovered. The establishment of free drainage for the cerebral fluid was not difficult. In seven cases the amount of fluid drained in 24 hours averaged eight ounces.

In all but one case the diagnosis of meningitis was confirmed by lumbar puncture. The symptoms were not diminished by drainage of the cisterna magna in the two cases that were secondary to fracture of the base of the skull, while in the other cases there was a definite period of improvement evidenced by lessening or absence of headache, clearer mentality, loss of muscular rigidity, lower temperature and pulse. This stage was followed by the usual progressive sepsis finally ending in a deep septic coma and death apparently free from pain. The period of improvement varied from a few hours to nine days.

Day divides the course of this disease when treated by drainage of the cisterna magna, into three well-defined periods: (1) The period of invasion, (2) the period of improvement, and (3) the period of sepsis.

He gives an interesting history of his cases with the pathology and autopsy findings and concludes his instructive paper by saying: Drainage of the cisterna magna hinders the development of a diffuse meningitis over the hemispheres; prevents the accumulation of inflammatory exudate in the subdural spaces but appears to have no effect upon the accumulation of pus in the pia arachnoid and does not influence the progress of the infection at the base of the brain.

H. BEATTIE BROWN

SURGERY OF THE NOSE, THROAT, AND MOUTH

NOSE

Sluder G. Nerve Trunk Anesthesia and Cocainization in Nasal Surgery. *Laryngoscope* 1913 23: 1078. By Surg. Gynec. & Obst.

The author states that three years ago he began the cocaineization of the sphenopalatine ganglion as a procedure for postnasal surgical anesthesia. A short time later he adopted a similar practice with the internal nasal nerve.

He has found this procedure exceedingly satisfactory. A very small applicator containing one-half minim saturated solution of cocaine mur. is placed under the posterior tip of the middle turbinate and allowed to remain for fifteen minutes. Eight minutes after setting the applicator for the ganglion the applicator is set for the internal nasal nerve. A smaller applicator is used carrying one-half drop applied to the uppermost anterior aspect of the nasal fossa.

Both applicators are removed simultaneously, one having been in fifteen minutes and the other seven. The anesthesia thus produced gives more than half an hour for the performance of the most comprehensive bone surgery of the lateral wall.

The author refers to another method used by him which he calls nerve trunk blocking in which he uses 5 per cent phenol in 95 per cent alcohol injected by means of a straight needle used both for the internal nasal nerve and the sphenopalatine ganglion. To introduce the needle into the sphenopalatine ganglion it is passed under the posterior tip of the middle turbinate in a direction upward backward and slightly outward and is introduced two-thirds centimeters by measurement from it point of contact — one-half cubic centimeter of the solution is then injected. Carbolic acid added to the alcohol prevents much if not all of the pain of alcohol when injected and the analgesia seems to the author to be much greater and of longer duration. W. H. JAMESON.

Hoyes M. I. Report of a Few Cases Where Sutures Instead of Packing, Have Been Used After Submucous Resection of the Nasal Septum. *Boston Med. & Surg. J.* 93: 1154. By Surg. Gynec. & Obst.

The method of finishing the operation is described by Lothrop and consists of a quilting stitch being used through both flaps as far back as the bone and cartilage have been removed and more stitches being employed.

The author reports on cases of which the results of this procedure were very satisfactory in the tenth an abscess of three days' duration resulted

due as she considers to faulty placing of the stitches.

The advantages of this method are: Free breathing, less discomfort, less trauma to turbinates and more rapid healing. F. A. LE B. FOWLER.

THROAT

Casselberry W. E. I. The Recognition of Early Changes in the Larynx in Tuberculosis. *J. Am. Med. Assn.* 913: 131. By Surg. Gynec. & Obst.

The author urges the importance of early diagnosis of laryngeal tuberculosis, especially in a tuberculous subject since prognosis and treatment depend largely upon laryngeal involvement.

Although not differing from tuberculosis elsewhere, laryngeal tuberculosis has certain sites, each of which tends to stamp the lesion with its own local function and though the stamp be that of location rather than of lesion, its impress on the tuberculous matrix is apt to leave a mark distinctive of the lesion itself. This is especially true of a site designated by the author as the vocal angle and described as starting at the base of the vocal process and mounting with a posterolateral trend it marks the line where the superficial structure of the true cord the false cord and the interarytenoid fold merge into one.

In ordinary phonation and in a normal larynx no impression is noticed at this site but tuberculous infiltration will cause it to retain in the form of a furrow or fissure the impress made on it at the fold ing line.

Thus hyperplasia commencing at the subglottic portion of the base of the vocal process and marked gradually by a furrow in the vocal angle the author considers one of the earliest and most distinctive of all the initial changes wrought by tuberculosis in the larynx and indicates tuberculosis before interarytenoid hyperplasia would have passed the stage of similarity to non tuberculous infiltration. J. I. J. P. T. T. C. V.

MOUTH

McCurdy S. L. Plastic Mouth Surgery. *Philadelphia Med. J.* 93: 9. By Surg. Gynec. & Obst.

In this paper the author advocates the complete closure of wounds within the mouth depending upon the use of tincture of iodine for sterilization, and after the removal of sequestrae or even the entire floor and avoiding the gauze pack which forces the tissue farther away from the bone and retards repair.

In the lower jaw when drainage is necessary an incision is made from without or when an abscess is pointing it should be treated in like manner. Two cases are reported. One in which the antrum was opened while operating on a cyst and one in which it was necessary to remove the external half of the mandible from the right second molar to the second incuspid on the left side leaving the remaining bone denuded over a large area. In both cases after the application of tincture of iodine the wounds, after the edges were freed were closed in the second case an incision was made through the skin beneath the jaw and a rubber drain inserted both cases making uninterrupted recoveries.

He describes another operation for closure of a naso-oral fistula assuming that the labial gingival structures are destroyed and that the lingual periosteum and mucous membrane extend well down to the normal line.

He makes a flap or tongue large enough to cover the opening by incising the mucous membrane and periosteum freshening the end of it as well as the borders of the opening and suturing it in place with the chromicized gut.

H A FORRIS

Loeb V. *Findings for Research in Oral Surgery*
J Am Med Ass 913 1 889

Bj Surg Gynec & Obst

In this short paper the author confines his remarks to some of the fields for research in oral surgery which are not definitely marked out and to facilitate the discussion divides the subject into five classes: embryological, anatomical, bacteriological, physiological and chemical.

Those comprising the first class are Cleft palate which has been produced in animals, hare lip, fistula of the lip, fissure of the tongue and cheek, facial asymmetry and congenital teeth.

Cases are cited showing the hereditary influence in cleft palate and hare lip. Ballentyne thinks the solution of the problem lies in a thorough embryological investigation, teratological developments being utilized as hints to direct research.

In the anatomical field the lingual papillae, the musculature of the lips and cheeks in articulation as well as the lymphatic distribution and the exact location of the pharyngeal end of Rathke's pouch merit more definite research.

In bacteriology there are many undeveloped problems such as relative virulence of micro-organisms at different ages, the specific cause of pyorrhea alveolaris, foci of infection and the absorption of toxins from them.

The saliva also presents a number of important physiological problems for investigative work among which is the presence of albumin in tuberculous of the lungs. The formation of calculous deposits is also little understood and the efficacy of various tooth powders and pastes and mouth washes is not settled. The etiology, diagnosis, and treatment of several diseases of the oral cavity are still uncertain viz: tri facial neuralgia, stomatitis aphthosa, leukoplakia, pyorrhea alveolaris and others. In this paper the author aims to stimulate and encourage research work along the lines mentioned in order that progress may be promoted and routine measures obliterated.

H A FORRIS

Dean L. W.: *A Method of Closing a Sinus Between the Antrum of Highmore and the Mouth*
J Am Med Ass 913 1 1613

Bj Surg Gynec & Obst

The author advocates this method of closing sinuses, remaining after removal of large quantities of bone following necrosis, or in chronic cases, which require permanent drainage into the nasal fossa. After numerous failures due to improper suture material and imperfect mattress suture he details his technique as follows, claiming 95 per cent union. After having completed proper drainage into the nose by the Denker or other suitable operation and the removal of necrotic bone after dissecting the gum and periosteum up from the inner and outer alveolar plates, which he removes sufficiently to allow the periosteal flaps to fall together without tension, he applies along the inner and outer surfaces of the alveolar process a piece of small rubber tubing long enough to be tucked under all the sutures. Now passing a double armed silkworm gut suture from within outward the loop passes around the tube on the inner side and the knot lies upon the tube on the outer side care being taken that the pressure be not sufficient to produce necrosis, the wound and sutures being cleansed hourly with hydrogen peroxide. Within seven to ten days healing may be completed.

H A FORRIS

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renal calculus P M P LCHER A Surg Phila 913
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the kidney F W GRAY Virchow's Arch f path
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reference especially to laboratory methods B A THOMAS
Am J M Sc, 913 cxlv 696
Diagnosis of genital tuberculosis E ROTHENBART D s-
sertation Fre burg 19 3
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against crime F L GERACROSS München Lehmann,
913
The treatment of impotence by means of cauterization
of the culiculus, hydrovibration and organotherapy M
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urinary passages E R W FRANK Deutsche med
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SURGERY OF THE EYE AND EAR

Eye

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of different races L SZENKER Klin Monatsbl f
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Cataract extraction with conjunctival bridge R S
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Trachoma C A LANDIS J Kansas M Soc 19 3
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The treatment of corneal ulcers with especial reference
to the use of methylene blue M WERWER J Okla. St.
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for the last three years at the University Eye Clinic at
Strasbourg R HETTEMANN Klin Monatsbl f Augenh
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Glaucoma E E GIBBONS W Virg M J 19 3 vi
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practice K L SROLL Lancet Clin 19 3 cx 540
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Rev 9 3 xxxii 329
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R. W. MILLER Calif St J Med. 19 3 xi 450. [309]
Excision of lacrimal sac G H POOLEY Ophth Rev
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The author's method of operation for entropion M
KORAY Westnik Ophth 9 3 xvi 673

Ear

Congenital absence of both ears R C LYNN Laryn-
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media F G CRAWFORD So African M Rec 1913 2
454

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standpoint of an otolaryngologist, with report of cases
J C BECK Illinois M J 913 xxiv 265 [310]

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upon by the Haines method Post mortem findings E
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Pathology and treatment of meningitis originating from
the ear A DENCKER Kl therap Wchnsch 913 xi
237

SURGERY OF THE NOSE THROAT AND MOUTH

Nose

Lp stasis and a simple form of treatment C R S
DENOV Internat J S 19 9 3 xvi 406

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cines A L TURNER Med Press & Circ 9 3, xvi 583

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ear with a note on the intravenous injection of Fried-
lander's pneumo-bacterium in the treatment of osena
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of accessory sinus suppuration G W MACKENZIE
Hahnemann Month 19 3 xivii 809

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J Okla St M Ass 9 3 vi 245

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CORWIN J M Soc N J 9 3 2, 78

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surgery G STUDEK Laryngoscope 9 3 xxii 1078
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operation L REISCHIG Ztsch f Ohrenh u f d
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Throat

Conservation of the faucial tonsil S H LANGR
Cleveland M J 9 3 xii 760

Practically bloodless tonsillectomy H B HUNT Wis
M J 913 xi 95

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Tonsillectomy and tonsillar hemorrhage R McKEN-
NEY J Tenn St M Ass 9 3 vi 70

Modern methods of dealing with adenoids and diseased
tonsils D A CRAWFORD Iowa M J 913 xi 29

Lupus and tuberculosis of the pharynx treated with
permonochlorophenol L DE RENTIER Westnik po terap
9 3 ii 2

A series of pictures of pathological conditions of the
larynx Thorst Verhandl d deutsche Röntgen Gesellsch
9 3 ix 4

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K OEHLMANN Dissertation Berlin 19 3

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culosis W E CARLSBERG J Am M Ass 9 3 lx
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tracheotomy multiple trauma extensive frostbite
recovery D B DELAVAN Med Rec 1913, lxxiv 9 7

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A O OOR Arch f path Anat Physiol 9 3 cxxii 46

Mouth

Adamantinoma F LANGE Dissertation Jena 9 3

The use of bacterial vaccines in acute septic conditions
of the oral cavity met with by the dentist L S MENDLER
Boston M & S J 9 3 clxxx 786

Plastic mouth surgery S L McCURDY Pittsb rgh
M J 9 3 i 9 [314]

Fields for research in oral surgery V LOREN J Am
M Ass 9 3 xli 889 [315]

A method of closing a sinus between the antrum of
Higmore and the mouth L W DEAN J Am M Ass
9 3 lx, 16 3 [316]

Resection of the root of the lower molar for cyst of the
tooth B M VERHOEF Co -bl f Zahnkrte 19 3 xli

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TABLE OF CONTENTS

I	AUTHORS	xii
II	INDEX OF ABSTRACTS OF CURRENT LITERATURE	iii
III	MONTHLY CRITICAL REVIEW	333-343
IV	ABSTRACTS OF CURRENT LITERATURE	344-424
V	BIBLIOGRAPHY OF CURRENT LITERATURE	425-448

ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGERY TECHNIQUE

Operative Surgery and Technique	
PLONDRE J J Preparatory and Post Operative Treatment	344

Anesthetics

BRIDGES W W The Dangers and Dead-ends of Spinal Anesthesia	344
CATHART F P AND CLAR G H The Influence of Carbon Dioxide on the Heart and its Degree of Anesthesia	345

SURGERY OF THE HEAD AND NECK

Head	
MAY R W AND LUDLOW J Frontal Tumors	345
WON E S FLS RG A AND RA ZI E Surgical Treatment of Tumors of the Brain and Spinal Cord	345
CARL L G AND EMERSON L E A Striking Requirement of Volitional Power and the Development of Dreams Following Cerebral Tumor Extirpation	346
STETTER D A ROS BLOOM J Clinical and Metabolic Studies of Case of Hypoparathyroidism Due to Cystic Hypophysis with Infected Lobe Type (So Called Typus Froehlii or Adiposo-Genital Dystrophy of the Adipose)	346

Neck

CULLIS J G AND MACHETRY J F Tumors of the Carotid Body	347
KRAUS F Pathology of the Thyroid and the Parathyroids and the Hypophysis and Their Mutual Relation	348
MAYO C H Goiter and Its Relation to its Symptomatology	348
BARADLIV C The Morphological Composition of the Blood Glands and Basedow Disease and the Changes After Operation	349
CHELLE W D AND RYAN R Thymus and the Thyroid and Their Mutual Relation to Basedow Disease	349
WILSON L B The Pathology of the Thyroid Gland and Exophthalmic Goiter	349

BLACKFORD J M AND S. FORD A H A Demonstration of a Depressor Substance in the Serum of the Blood of Patients Affected with Exophthalmic Goiter	350
TANBERG A Experimental Study of the Physiology of the Parathyroid Glands, Especially Their Relation to the Thyroid	35

SURGERY OF THE CHEST

Chest Wall and Breast	
BALDWIN J F Sarcoma of the Chest Wall	352
ILAN B Treatment of Acute Pleural Empyema	352

Trachea and Lungs

GROS I A D REINHOLD M E Radiography of Pulmonary Gangren	352
--	-----

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum	
PAVETT D A The Section of the Incision in Colotomy	353
REICHELDERFER L H Post-operative Treatment of Post-operative Abdominal Adhesions	353
CLOGG H S Iguaralim in the Child	353
OCHSNER A J The Treatment of Ileus in Children	354

Gastro-Intestinal Tract

ROSE OR F C The Production of Ulcer of the Stomach, by Injection of Streptococci	354
CARMAN R D The Roentgen Ray as an Aid in the Diagnosis of Gastric Cancer and Ulcer	355
STOCKTON C G Pyloric Spasm	355
FRANKE M Further Experiences with Stretching of the Pylorus	356
ZWEIFEL I Intestinal Fistula and Their Treatment	356
TERRE R C Intestinal Resection Successful Removal of Malignant Tumor of Bowel with Observations on the Subsequent Metabolism	356
CARL J T KRY in the Diagnosis of Carcinoma of the Colon	356

INTERNATIONAL ABSTRACT OF SURGERY

- VORLEY L. E. C. Imperforate Conditions of the Rectum and Anal Canal and Their Treatment 357
MARTIN C. F. The Anorectal Line Its Clinical Significance 358

Liver Pancreas and Spleen

- STOCKTON C. G. Condition of the Upper Region of the Abdomen in Relation to Disease of the Gall Bladder 358
DEWEES J. B. Cholecystectomy 358
WADE H. N. Primary Hodgkin Disease of the Spleen Dorothy Reed Type 359

Miscellaneous

- MÖLLERBERG R. Diagnostic Difficulties in Abdominal Tumors 359
HASSLER A. Some Recent Conclusions on Abdominal Röntgen Ray Work 360

SURGERY OF THE EXTREMITIES

Diseases of the Bones Joints, Muscles Tendons. Conditions Commonly Found in the Extremities

- MOORE J. F. AND CORBETT J. F. Studies on the Section of the Perosteum 360
HOSMER A. J. Our Present Knowledge of Bone with Reference to Infection and the Use of Bone as a Transplant 360
FROND H. Our Experience with Röntgen Treatment of Surgical Tuberculous 361
RANSOMER J. Osteitis Deformans, Central Sarcoma Streptococcus Infection 361
ELEY L. W. Diseases of Joints and Bone-Marrow 361
TAYLOR, H. L. Charcot Joints as an Initial or Early Symptom in Tabes Dorsalis 362
MORLEY J. Traumatic Intramuscular Ossification 36

Fractures and Dislocations

- BURNHAM A. C. Spontaneous Fracture and Bone Cysts 363
JOYCE R. A. Orthopedic View of the Treatment of Fractures 363
PARHAM F. W. AND MARTIN E. D. A New Device for the Treatment of Fractures 363

Surgery of the Bones Joints Etc

- FREDRY P. The Treatment of Great Fractures after the Technique of Lambotte 364
DUJARIEN C. The Open Treatment of Fractures of the Leg Old and New 364
HILZBERG J. M. Some Problems in Bone Surgery 366
DENNIS W. A. Treatment (Osteomyelitis) 366
BROWN W. L. D. BROWN C. P. Preliminary Report on Bone and Periosteal Transplantation 366
ALLISON N. A. AND BROOKS B. The Mobilization of Ankylosed Joints 367
OSGOOD, R. B. The End-Results of Attempts to Mobilize Stiffened Joints 367
ECKERSSER, L. Implantation of Joint 368
MC CRIDER E. P. Infantile Paralysis Affecting the Lower Extremities Its Surgical Treatment and Possibilities of Cure a Preliminary Report 368

Orthopedics in General

- MAYE L. Paralysis of the Quadriceps Femoris A Clinical Study of the Paralysis and Discussion of the Mechanical Principles Involved 368

- GEIST L. S. The Etiology, Diagnosis and Treatment of Weak-Foot and Similar Conditions 369
WHITMAN R. The Importance of Positive Support in the Curative Treatment of Weak Feet and Comparison of the Means Employed to Assume It 369
DAVIS G. C. The Treatment of Hollow Foot Pes Cavus 369

SURGERY OF THE SPINAL COLUMN AND CORD

- VERABLE C. S. Bone Implantation in Pott's Disease 369

SURGERY OF THE NERVOUS SYSTEM

- LIPPET S. Luxation of the Ulnar Nerve 370
PARKHURST A. J. The Regeneration of Nerves by Uniting the Ends with Blood Vessel Tubes 370

DISEASES AND SURGERY OF THE SKIN FASCIA APPENDAGES

- KIASCHKE M. Present Status and Prospects of Autoplasty Transplantation of Fascia 37

MISCELLANEOUS

- Clinical Entities—Tumors, Ulcers, Abscesses Etc
BLONCOON J. C. Control of Cancer 372
TETTER, R. Kruurosis and Canceroid 372
MCGRATH W. F. AND SIMON A. G. Acute Inflammatory Glands in Man 372

Sera Vaccines, and Ferments

- BALL, C. T. Abde halden's Serodiagnosis of Cancer and Pregnancy 373
PEARCE R. M. The Scientific Basis for Vaccine Therapy 374

Blood

- GÓZDOWY L. Serologic Difference between Maternal and Fetal Blood Serum 374
VORSTEN C. AND MAYER D. I. Isolation of a New Vasoconstrictor Substance from the Blood and the Adrenal Cortex Presence of the Substance in the Blood and Its Action on the Cardiovascular Apparatus 374
LE CALVE J. Changes in the Blood after Construction of a Limb 374
OTTENBERG R. AND KALLER D. J. Accidents in Transfusion Their Prevention by Preliminary Blood Examination Based on an Experience of One Hundred Twenty Eight Transfusions 375

Blood and Lymph-Vessels

- VOHSE R. Ambulatory Treatment of Varicose Veins and Ulcers of the Leg with Adhesive Plaster Bandages 375
BRADENKO V. Ligation of the Portal Vein 376
OLIVER J. The Relation of Hodgkin's Disease to Lymphosarcoma and Endothelioma 376

Poisons		
CHURCHMAN J W Cutaneous Manifestations of Septicæmia	376	
Surgical Therapeutics		
BARBER L F AND GIBBS J H On the Treatment of Leukæmia with Benzol	377	
BRANDSTETTER A Chemotherapeutic Treatment of Cancer with Selenium and Iodomethylene Blue	377	
Electrology		
LA GR S The Accuracy of the X Ray Heart Shadow	378	
GOSY P M Craniography	378	
WEITZEL F Experience with Intensive Röntgen therapy	379	
GIBSON J D X Ray the Treatment of Tuberculous	379	
HAEDEL P Anatomical Findings in Carcinomata Treated with Mesothorium and Röntgen Rays	380	
RANZI E, SCHILLER H AND SPARMANN R Radium Treatment of Malignant Tumors	380	
LAITZOW W AND SCHILLER H Radium Treatment of Cancer	381	
STICKER A Radium and Mesothorium Treatment Their Theoretical Principles and Practical Use	381	

GYNECOLOGY

Uterus		
ENGSTROM O Malignant Chorio Epithelioma	38	
KELLY H A AND NEEL J C Cauterization of Inoperable Carcinoma of the Cervix of the Uterus	38	
BARRETT C W The Carcinoma Question as It Pertains to the Uterus	383	
HAEDEL P The Effect of Mesothorium and Röntgen Rays on Carcinoma of the Uterus and the Ovaries	383	
PETRO E Clinical and Histological Discussion of the Treatment of Cancer of the Uterus by Wertheim's Operation	383	
GEIST S H A Contribution to the Histogenesis of Sarcomatous Change in Uterine Fibromyomata	383	
FREUND H Etiology of Myoma of the Uterus	384	
SCOTT S G The Radiographic Appearance of Calcifying Fibroids	384	
WEEK F W Increase of Temperature During Menstruation: Pulmonary Tuberculosis	384	
GILES A E Pessaries Versus Operations in the Treatment of Uterine Displacements	384	
ZICKEL G Incision Between the Spines in Alexander-Adams Operation	385	
HOLDER F C The Treatment of Sterility by the Dudley Reynolds Operation	385	
Adnexal and Peritoneal Conditions		
PURCH P AND VERTS J The Role of the Corpus Luteum: the Fixation and Development of the Ovary in Woman	385	
RIZZ E Etiology of Periodic and Alternating Swelling of the Ovaries	385	
OUTENBRIDGE G W Thyroid Tissue Tumors of the Ovary	386	
OUTENBRIDGE G W Study of Malignant Degeneration in Cysts of the Ovary	386	
CALMAN A Treatment of Protracted Fibrinous Suppurative Disease of the Adnexa	386	
BYO KVENEM E A Collagen in the Fallopian Tube at Different Ages	386	
HOLZAPFEL A Technique of Tubal Sterilization	387	
STEIN K Primary Diamond Tumors of the Round Ligament	387	
External Genitalia		
LEONARD V N The Post Operative Results of Trachelorrhaphy in Comparison with Those of Amputation of the Cervix	387	
MURRAY M Symptomatology of Vesicovaginal Fistula	388	
KOCH J A The Dry Treatment of Leucorrhœa and Cervical Erosions	389	
WIENER S High-Frequency Cauterization in the Treatment of Urethral Caruncle	389	
FROMM F D verticula of the Urethra	389	
VOYTRAQUE O Prolapse of the Ureter Through the Urethra with Remarks about the Histology of Edema Bulbosum	389	
MINAKUCHI K Urinary Fistula	390	
Miscellaneous		
BELL W B The Relation of the Internal Secretions to the Female Characteristics and Functions Health and Disease	390	
HERZOG H Involution Forms of the Gonococcus: Nesser and Their Role as Intracellular Cell Parasites	391	
PORCROWICK J B Transference of Pain in Diseases of the Genital Organs	391	
ALBERS SCHÖNER G Röntgen Ray Treatment in Gynecology	391	

OBSTETRICS

Pregnancy and Its Complications		
HUTTMAN O V A Theory of the Cause of Ectopic Pregnancy	392	
MALL F P AND CULLEN E K An Ovarian Pregnancy Located in the Graafian Follicle	392	
SEITZ L Galvanic Irritability of Muscle in Pregnancy and Tetany During Pregnancy	392	
GELLHORN G Esophageal Gaster and Pregnancy	393	
ECKEN K P Kidney Function During Pregnancy	393	
STUCKEL Pyelitis in Pregnancy	393	
ESSEY MÖLLER E Present Treatment of Eclampsia	394	
ENGELMANN F Compromise Between the Radical and Conservative Treatment of Eclampsia	394	

- HILSBY A** The Indications for Cesarean Section Found in a Series of Forty Four Cases from the Gynecological and Obstetrical Service of the Brooklyn Hospital 394
- DAVIS A B** Cesarean Section Study of a Consecutive Series of Cases 395
- DAVIS E. C** Report of Cesarean Sections Done During Past Year 395
- MCPHERSON R** Treatment of Placenta Previa by Cesarean Section When It Is Justifiable? 395
- CROSBY H S** The High Short Incision for Cesarean Section 396
- BEVINS W** Treatment of Fetal Abortion 396
- Labor and Its Complications**
- GOLDSTROM M** Prognostic Value of Demonstrating Streptococci in the Vaginal Secretion of Women in Labor 397
- ROUVIER I** Simplified Directions for Podalic Version by Internal Manipulation in Head Presentations 397
- STEPHAN S** Death from Intraperitoneal Hemorrhage During Delivery from a Varicose Nodule of the Angle of the Uterus 397
- Puerperium and Its Complications**
- POLAK J O** The Management of the Interior of the Uterus in Post Abortal and Post Partum Infection 397
- ILKOWITZ W J** Treatment of Puerperal Sepsis, by Intravenous Injection of Distilled Water 398
- Miscellaneous**
- DOVALSON M** Some Observations of Blood Pressures in Cases of Normal and Abnormal Pregnancies and Labors 398
- BJÖRKE BEIN E A** Golts's Internal Network in the Placental Epithelium 398
- WOLFF B** Origin of Amniotic Fluid 398
- W. LESTER, E. AND ELLER R** Proof of the Absorption of Spermatozoa in the Female Organism 399
- WILLIAMS W W AND INGRAM C B** Abdominal Pregnancy Test 399
- SITTLER R** The Prophylaxis of Ocular Birth Infection and Venereal Diseases 400
- TICKER, B R** Birth Trauma in Its Causative Relation to Epilepsy and Insanity 400
- WYNN J F** Intracranial Trauma at Birth Their Interest to the Obstetrician 400
- FRAZIER C H** Surgical Aspects of Birth Trauma 401
- JUCHA, H** Narcosis and Anesthetics in Childbirth 401
- BOSMAN DE KAT ANGELINO I AND MARGOT A J** Fate of 740 Children with a Birth Weight of Less than 3,000 Grams 401
- DOVVELL R E** Two Headed Fetus 402
- BREWER L** Lithopedion of the Mesentery for Twenty Years 402
- FOGGS A** Use of Primizin in Obstetrics 402
- HEYMANN T** The Measurement of the Pelvis with Röntgen Ray and Their Practical Use in Obstetrics 402

GENITO-URINARY SURGERY

Kidney and Ureter

- GERAGHTY J T AND FLAGENMEYER, H W** The Practical Importance of Infantile Kidney in Renal Diagnosis 403
- THOMAS, G J** Report of a Case of Pelvic Kidney Diagnosed before Operation 404
- ALLEN L W** A Case of Bilateral Hematuria Cured by Injection of Whole Blood 404
- HALL N A** Case of Renal Cancer 405
- BREWER G E** Observation on Acute Hemorrhagic Infection of the Kidney 405
- HICKS, P** On the So Called Movable Kidney Disease a Reply 406
- MURRAY J** Decapsulation of the Kidney Anatomical and Physiological Study 406
- VINCENT W G** A New Kidney Cushion a Two Compartment Air Cushion, Designed Particularly for Use in Kidney Upper Abdominal, and Neck Operations 407
- CATZ, J R AND DAVIS T M** The Phthalate Test for Renal Function with Relation to Operative Procedures 407
- SCOTT S G** The Radiographic Technique in Pyelonephritis 408
- LIND F** Pyelonephritis, a Clinical Study 408
- WALKER J W T** The Early Diagnosis of Hydronephrosis by Pyelography and Other Means 408
- MOORE** The Removal of Ureteral Calculi with the Operating Cystoscope with Report of Three Successful Cases 409
- MACKENRODT A** Treatment of High Injuries of the Ureter and Treatment of Defect and Injuries of the Neck of the Bladder and the Sphincter of the Urethra 410
- ROCHET** Extra-urethral Method of Approaching the Bladder End of the Ureter 410
- Bladder Urethra and Penis**
- AVERSHAW** Forms of Pericystitis 411
- HEATH, O** The Significance of Frequency and Tenesmus in Acute Cystitis 413
- STOKES A G** Treatment of Tumors of the Bladder 413
- BRIDGES, H** A Case of Adenoma of the Bladder with Remarks on the Pathology of the Affection 414
- FULTON J A** Gonorrhea Cured through Use of Heated Bougie 414
- Genital Organ**
- FAX C F** Strangulation of the Undescended Testis 414
- SEAR H B AND COOPER R H** On Change Occurring in the Pelvis in a Case of Prepubertal Atrophy of the Testicles 415
- BUTKLEY L** Malignant Disease of the Testicle Retained within the Abdominal Cavity 415
- MILLER, A G** Is Enlarged Prostate the Cause of Residual Urine 416
- LOVE, ENGLISH AND G** Operative Treatment of Hypertrophy of the Prostate 416

- RUSH J O Gumma of Prostate and Bladder Six
 Intravenous and One Intramuscular Injection of
 Salvarsan and Twenty Six Intravenous Injec-
 tions of Neosalvarsan to Patient Sixty Six
 Years Old 47
 CUMSTON C G Some Remarks on Sarcoma of the
 Prostate 47
 CABOT H Factors Influencing the Mortality of
 Suprapubic Prostatectomy 417
 SQUIER J B Surgery of the Seminal Vesicles 418
- Miscellaneous
 KIDD F The Diagnosis and Treatment of Haemic
 Infection of the Urinary Tract 48
 BOGGS T R AND GUTHRIE C G Bence Jones
 Proteinuria in Leukemia Report of Four
 Cases the Effect of Benzol on the Excretion of
 the Protein 419
 ROCKWOOD H L Further Observation on the
 Complement Fixation Test in Gonococcus In-
 fection 419
 SANFORD H L An Efficiency Test of Dispensary
 Treatment of 100 Cases of Gonorrhoea 49

SURGERY OF THE EYE AND EAR

- Eye
 DARLING C G The Treatment of Trachoma with
 Special Reference to Expression and Friction with
 the Author's Ground Glass Rod 420
 FREYBERGAST D A A Report of a Case of Con-
 cussion Cataract 420
 SELL A C Report of a Case of Dacryocystitis
 Presenting Several Complications Including
 Orbital Abscess and Optic Neuritis 4
- Ear
 COCKS G H The Indications for Operating in Acute
 Mastoiditis 4
 TOLBY JR J L Acute and Chronic Suppuration
 of the Middle Ear 420
 PIERCE W H Diagnosis and Treatment of Menin-
 geal Complications of Suppurative Diseases of
 the Temporal Bone 421

SURGERY OF THE NOSE THROAT AND MOUTH

- Nose
 FERRERI G Treatment and Prognosis of Malignant
 Tumors of the Nasal Fosse and Hypopharynx 42
 PRATT J A The Etiology of Hypertrophic Rhinitis 4
 LEVY R Diagnosis and Indications for Treatment
 of Suppurative Diseases of the Nasal Accessory
 Sinuses 42
 OSTROM L Ventilation Rather than Drainage
 Essential for the Cure of Sinus Diseases with
 Special Notes on the System of Highmore 423
 ROBERTSON A A Chronic Mucocele 43
 CLAYSON F H Indications for the Correction of
 Deviation of the Nasal Septum by the Gossow
 Operation 43
- Throat
 LILIENTHAL H Retropharyngeal Abscess the Safest
 Method of Drainage 43
 LEADGATE The Development and Extension of
 the Larynx of Laryngology 423
- Mouth
 GAUDIER Lane's Topical Operation on the
 Palate 424
 FEDER PELL M Some Observations on Oral
 Abnormalities and Their Relation to Medicine
 and Surgery 44

BIBLIOGRAPHY

GENERAL SURGERY

SURGICAL TECHNIQUE

Operative Surgery and Technique	425
Aseptic and Antiseptic Surgery	425
Anesthetics	425
Surgical Instruments and Apparatus	426

SURGERY OF THE HEAD AND NECK

Head	426
Neck	427

SURGERY OF THE CHEST

Chest Wall and Breast	428
Trachea and Lungs	428
Pharynx and Esophagus	428
Miscellaneous	429

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum	429
Gastro-Intestinal Tract	429
Liver, Pancreas and Spleen	433
Miscellaneous	435

SURGERY OF THE EXTREMITIES

Diseases of Bones, Joints, Muscles, Tendons	
General Conditions Commonly Found in the	
Extremities	433
Fractures and Dislocations	434
Surgery of the Bones, Joints, &	434
Orthopedics in General	435

SURGERY OF THE SPINAL COLUMN AND CORD

435

SURGERY OF THE NERVOUS SYSTEM

436

DISEASES AND SURGERY OF THE SKIN FASCIA
APPENDAGES

436

MISCELLANEOUS

Clinical Entities—Tumors, Ulcers, Abscesses, etc.	437
Sera, Vaccines and Ferments	437
Blood	437
Blood and Lymph Vessels	438
Poisons	438
Surgical Therapeutics	438
Surgical Anatomy	439
Electrology	439
Military and Naval Surgery	440

GYNECOLOGY

Uterus	440
Adnexal and Pervaginal Conditions	441
External Genitalia	44
Miscellaneous	443

OBSTETRICS

Pregnancy and Its Complications	442
Labor and Its Complications	443
Puerperium and Its Complications	443
Miscellaneous	443

GENITO-URINARY SURGERY

Kidney and Ureter	444
Bladder, Urethra and Penis	445
Genital Organs	445
Miscellaneous	446

SURGERY OF THE EYE AND EAR

Eye	447
Ear	447

SURGERY OF THE NOSE, THROAT AND
MOUTH

Nose	447
Throat	448
Mouth	448

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C. Franz O. Hildebrand A. Kohler E. Kuster F. de Quervain V. Schmieden
Zentralblatt für die gesamte Gynäkologie und Geburtshilfe sowie deren Grenzgebiete O. Beuttner
A. Döderlein Ph. Jung B. Kronig C. Menge O. Pankow E. Runge E. Wertheim
W. Zangemeister

AUTHORS

OF THE ORIGINAL CONTRIBUTIONS WHICH ARE ABSTRACTED IN THIS NUMBER

- Albers-Schönberg 391
 Allen L W 404
 Allison N 367
 Aversenq 41
 Blackcock W W. 344
 Baldwin J F 352
 Ball, C F 373
 Barachun G 349
 Barker L F 377
 Barrett C W 383
 Baxler, A 360
 Bayer R. 349
 Bell W B 390
 Benth L 396
 Bieler W 402
 Björkenheim, E A 386 398
 Blackford, J M 350
 Bloodgood, J C 372
 Boord T R 419
 Bozman-de Kat Anglino, I 401
 Braumstein A 377
 Brewer G E 4 5
 Brindoux, H 414
 Brooks B 367
 Brown C F 366
 Brown W L 364
 Bulkley, K 4 5
 Burkenko N 376
 Burnham, A C 363
 Cabot H 417
 Callison J D 347
 Calmann A 386
 Capelle, W 349
 Carman, R D 355
 Case, J T 356
 Cathcart E F 345
 Caulk, J R 407
 Churchman, J W 376
 Cla L, G H 345
 Clogg H S 353
 Cocks, G H 420
 Cooper R H 4 5
 Corbett J F 360
 Crossen H S 396
 Cullen E K 392
 Cumstou C G 4 7
 Darling C G 420
 Davis A B 393
 Davis E C 393
 Davis, G C 369
 Davis, T M 407
 Deaver J B 358
 Dennis, W A 366
 Donaldson, M 398
 Donnell, R E 402
 Dojaner C 364
 Eckelt K 393
 Enghora M 395
 Eklir R 399
 Eloesser L 368
 Fly L W 361
 Emerson, L E 346
 Engelmann, F 394
 Engström, O 382
 Emen-Möller E 394
 Farr C. L 4 4
 Federspiel M N 424
 Ferren G 42
 Foga, A 402
 Frazer C H 401
 Fredet, P 364
 Freund H 384
 Fromme F 389
 Fröling, H 361
 Fuchs, H 401
 Fulton, J A 414
 Guder 424
 Gest E S 369
 Gest S H 383
 Gellhorn G 393
 Geraghty J T 403
 Gibbs, J H 377
 Gibson J D 379
 Gales, A E 384
 Gleason E B 423
 Goby P 378
 Goldstrom M 397
 Goss, L 374
 Gray E G 346
 Gryn, E 35
 Guthrie, C G 4 9
 Haendly P 380 383
 Hahn, B 35
 Halle N 495
 Heath O 413
 Herzog H 391
 Heynemann T 40
 Hicks, P 406
 Hittrot J M 366
 Holden, F C 385
 Holstspick, K 387
 Hooser A J 360
 Huffman O 392
 Hussey A 394
 Ilkewitch W J 398
 Ingraham C B 399
 Jones, R 363
 Kabaki D J 375
 Kelly H A 38
 Kidd, F 408, 4 8
 Kirschner M 371
 Koch, J A 389
 Kraus F 348
 Lange S 378
 Latzko W 381
 Le Calvé J 375
 Leland G A 423
 Leonard V N 387
 Levy R 42
 Lilienthal H 423
 Lippens 370
 Loudon J 345
 Mach, D I 374
 Mackenrodt, A 420
 MacKenty J E 347
 Magruder E P 368
 Mall F P 392
 Mann R W 345
 Margot A J 40
 Martin C F 358
 Martin E D 363
 Meyer J B 368
 Mayo C H 348
 McPherson R 395
 Miller A G 4 6
 Minakuchi K 390
 Moore 409
 Moore J E 360
 Morley J 36
 Möllerheim, R 359
 Murard, J 406
 Muret, M 388
 Musgrave W E 373
 Neal J C 38
 Norbury L E C 357
 Ochner, A J 354
 Olive J 376
 Osgood, R B 367
 Ostum, L 4 3
 Ottenberg R 375
 Oulenko-Stroganoff 386
 Outerbridge, G W 386
 Pannett D A 353
 Farham, F W 363
 Pearce R M 374
 Perikropoff A J 370
 Pierce, N H 4
 Petz E 383
 Plaggenmeyer, H 403
 Plondire F J 344
 Polak J O 397
 Porchownik, J H 39
 Pratt J A 42
 Prendergast D A 420
 Pusch, P 382
 Ransohoff J 36
 Ranz E 345 380
 Rehfuß, M E 339
 Reichelderfer L H 353
 Rues, E 385
 Robertson A W 423
 Rochet 410
 Rockwood, H L 4 9
 Rosenbloom, J 346
 Rosenow E C 354
 Rouvier I 397
 Rush, J O 4 7
 Sanford, A H 350
 Se ford, H L 4 9
 Sattler R 400
 Schüller H 380, 38
 Scott S G 384 408
 Seitz, L 39
 Shaw H B 4 5
 Simon A G 373
 Snell A C 420
 Sparrman R 380
 Squier J B 4 8
 Stedl K 387
 Stephan, S 397
 Stetten D 348
 Stricker A 38
 Stockton, C G 355 358
 Stoeckel, 393
 Stokes A C 4 3
 Tanberg, A 35
 Taylor H L 362
 Teuffel R 373
 Thomas, G J 404
 Tobey J G L 420
 Tucker B R 400
 Turck R C 356
 Vanverts J 385
 Venable C S 369
 Vincent, W G 407
 Voegtlin, C 374
 Von Emselberg A 345
 Von Engelmann G 416
 Von Franquet, O 389
 Von Heuss, R 373
 Wade, H N 359
 Wadstein E 399
 Walker, J W T 408
 Weitzel F 379
 Weitzma R 369
 Wiener, S 389
 Wiese F W 354
 Williams, W W 399
 Wilson, L B 349
 Winn J F 400
 Wolff, B 398
 Zickel G 385
 Zwiesel 356

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FREE TISSUE TRANSPLANTATIONS

By D B FHEMISTER M D CHICAGO

THE transplantation of detached portions of the living body has long been of interest as witnessed by the fact that it has so frequently been the theme of the artist during the past three or four hundred years. Occasional attempts at its performance were made but with uniformly bad results until after the middle of the 19th century. In 1838 Ollier established its feasibility by the successful transplantation of bone and in 1870 Reverdin performed the first successful skin transplantations. New possibilities were soon opened up by the introduction of antiseptics and with the works of Thiersch, Krause, Wolff and Hirschberg the transplantation of skin was carried almost to completion. However little headway was made with the transplantation of other tissues until the beginning of the present century. With a more refined technique came renewed interest and one is safe in saying that during the past ten years the free transplantation of tissues has been more extensively investigated and more rapidly advanced than any other phase of operative surgery. The composition of the transplant has been extremely varied all of the different tissue elements have been transplanted either separately or in combination chiefly with the idea of restoring missing portions or correcting mechanical defects. Portions of or entire organs have been transplanted in order to obtain their physiological effects in a host where the homologous organs are defective either as a result of disease or of operative removal as for instance the transplantation of parathyroid for post-operative tetany following accidental parathyroidectomy in goiter

operations. The result of a transplantation is dependent upon a great many factors which may be considered under the following heads:

1. *The nature of the cells comprising the transplant.* The more highly specialized a cell is the less marked are its resisting and regenerating powers and this is particularly well shown in the case of transplantations. The simpler tissues which require less nutrition survive for days on the transudate which permeates them but the more highly specialized ones undergo necrosis in a few hours without a blood vascular circulation. The most favorable tissues for transplantation are the simpler connective tissues, such as tendons, fat, fascia and bone the most unfavorable ones are muscle and nerve.

The source of the material. Autoplastic transplants are those which are derived from the same animal into which they are transplanted and other things being equal give the best results. The tissues and fluids of each body are different from those of every other body and while this difference may be only slight it is sufficient to make it advisable whenever possible to use the patient's own tissues for the repair of his defects.

Homoplastic transplants are those which are derived from another animal of the same species. When composed of the simpler tissues such as fascia and tendon they may be used successfully but not with the same regularity as autoplastic grafts and when composed of the more highly differentiated cells such as skin or mucous membrane they result in failure. Other objections to their use are that material is often difficult to

obtain and that disease may be transmitted from the donor to the host

Heteroplastic transplants are those which are derived from an animal of a different species or consist of dead animal tissue. Living tissue from a different species always succumbs when transplanted into man or the higher animals. If there is infection which is particularly liable to occur it immediately sloughs out. If there is no infection it either becomes encapsulated or is absorbed and is slowly substituted by the tissue into which it is transplanted as may happen in the case of bone months after its transplantation. Hence clinically the transplantation may be a success while the transplant undergoes partial or even complete necrosis.

3 *The indication for the transplantation.* If tissue is transplanted into a location in which it is not needed it is even harmful and where there is no function for it to perform its cells may retain their vitality but nearly always there will be few or no proliferative changes in the transplant. On the other hand a sort of atrophy of disuse usually sets in and it slowly decreases in size and is eventually absorbed. However if it is transplanted into a defect in the course of tissue where there is demand for it to perform a function proliferative changes are usually marked and it rapidly becomes united to and similar in structure to the portion into which it is transplanted. This is according to the law of functional irritation laid down by Roux. If the transplantation has been technically so well performed that active demands can be made upon it to functionate without injury the response will be very much greater as in the case of transplanted tendons which have been so well sutured that early active movements can be carried out this is well illustrated by the experimental work of Lewi and Davis. This rule holds for glandular tissues which have a secretory function to perform as well as for connective tissues whose function is local and mechanical. Halsted has shown that parathyroids would not take and remain alive for any length of time unless there was a deficiency of parathyroid material and secretion in the animal.

4 *The technique of the transplantation.* This is of very great importance. Asepsis is essential for uniformly good results although a mild infection is not necessarily indicative of failure. Grafts composed of the connective tissues frequently take in part or whole in the presence of slight infection.

Good hemostasis is very essential for the rapid reestablishment of circulation. A hema-

toma not only favors the development of infection but also interferes with the early nutrition of the transplant by the permeating serum. The avoidance of traumatism to the transplant prevents necrosis of portions and lessens the danger of infection and the possibility of the formation of adhesions which may be highly desirable as in the case of transplanted tendons. Good approximation and suturing are necessary where early use is to be made of the part in order to secure the benefits of functional irritation. In case the transplant lies very near the surface the skin incision should be so placed as not to fall directly over it; necrosis and infection are less apt to result. Extensive scars should be excised from a field if possible before transplantation into it because their poor blood supply is likely to interfere with the reestablishment of circulation in the graft. A successful clinical result does not necessarily mean that all of the transplant lived for as a rule more or less of it undergoes necrosis.

The subsequent changes in the tissues when from a clinical standpoint transplantation has been a success are variable. The entire transplant may live and become united in its new position. This is usually not the case but it is frequently seen in transplants consisting of fascia and tendons. Part of the cells of the transplant may die while the rest live and hypertrophy forming new tissue which gradually absorbs and substitutes the necrotic portions. In bone with its periosteum and endosteum intact the bone cells of the compacta die but the periosteum and endosteum survive and form new bone which gradually replaces the dead portion. Again the entire transplant may die and substitution occur by an ingrowth of like tissue from the surrounding portions as in the case of a successful heteroplastic tendon transplantation. The subsequent changes in a transplant which fails may be any one of the following:

1 There may be immediate sloughing out from infection and death of the transplant.

2 The transplant may heal in at first but after weeks evidences of mild infection develop and a fistula forms. The infection usually increases until finally the transplant which has died sloughs out or has to be removed.

3 The transplant takes at first but its cells are slowly absorbed or replaced by connective tissue.

The fate of tissues transplanted into locations where they have no function to perform, as for instance bone or tendon into the subcutaneous tissues, is usually that of gradual absorption.

SKIN TRANSPLANTATION

There has been little advance during recent years in the field of usefulness of transplanted skin but as a result of the researches of Lexer our ideas as to the relative value of the different types of transplants and of materials from different sources have been more definitely formulated. The type of graft indicated varies according to the location of the area to be covered and as to whether or not a movable skin is desired. Epidermal grafts cut according to the Thiersch method are the most successful and best suited for the great majority of cases. They may be cut in the largest possible strips.

The preparation of the surface for receiving the grafts should vary according to the nature of the wound. If it is covered by healthy dry granulations the grafts may be applied directly with almost no preliminary curettage. However if conditions are not just right and this includes the bulk of cases the entire surface should be curetted and careful hemostasis obtained before the grafts are applied. The extravasated blood should be allowed to clot upon the surface after which firm pressure is applied with gauze and the clot is forced out. This leaves behind a coat of fibrin upon which the graft is applied and to which they adhere firmly. The character of the dressing is of little importance provided the operation is properly done and the grafts are not too much disturbed. In case the wound is located about the face and a movable skin is desired the result is best obtained by transplantation of the entire thickness of the skin including the subcutaneous fat. Because of the rich blood supply such transplants take in the great majority of cases. Grafts including the entire thickness of the skin are more often successful if the subcutaneous fat is cut away which can be done either at the time of or after their removal. However they are firmly bound down and are more vital for use about the hand etc.

The source of the material is of much greater importance than was formerly supposed. According to Lexer autologous grafts are the only ones in which the epithelium is preserved and forms a permanent covering for the area.

Heterologous transplantation is a failure. The grafts usually slough off shortly after their application. Dixon has reported success with skin taken from young pups and Bianchi and Fiorani with that from young chickens but Lexer says it remains alive and attached only for a short time after which it acts as a crust under which healing occurs but without the formation of any epithelial covering from the transplant.

Homoplastic transplantation has been the subject of a great deal of discussion. Thiersch, Garré, Funderlen and Karg have maintained that it is unsuccessful while many others have reported success in a certain percentage of cases. J. S. Davis claims equally good results with autoplastic and homoplastic grafts. In recent years Lexer has performed a series of homoplastic transplants and has arrived at the following conclusions:

1. Skin transplanted from one adult to another sloughs off in a short time.

2. Skin from a parent brother or sister may take temporarily but eventually sloughs off.

3. Skin from a fetus may take and remain adherent but undergoes necrosis and is substituted by the ingrowth of fibrous tissue from beneath.

The course of homoplastic grafts may be any one of the following:

1. Acute necrosis with gangrene of the transplant. This is a very common result.

2. The grafts take at first but after one or two weeks are totally discarded with the formation of a layer of pus and granulations beneath.

3. The grafts take at first but after three or four weeks undergo necrosis and dry gangrene forming a thin dry crust beneath which healing occurs by scar formation.

4. The grafts take and at the end of three or four weeks remain firmly fixed. Then areas of slight desquamation develop. Fibrous granulations now grow in and substitute the transplanted tissue without any appreciable amount being cast off. In no case was an epithelial covering for the area formed from the cells of the transplant. He explains the persistence of pigmentation when negro skin is transplanted on to a white man in the ground that while the cells are rapidly absorbed the pigment remains and is removed very slowly. These transplants were controlled by microscopical examinations of cross-sections which add considerable to their value. Oshima in Lexer's Clinic has recently reported upon the histological examination of homoplastic grafts including the entire thickness of the skin both in man and in animal and has found that while the grafts become attached and live for two or three weeks they eventually undergo necrosis and are either absorbed or slough off.

MUCOUS MEMBRANE TRANSPLANTATION

Conditions for success are not nearly so favorable in the transplantation of mucous membranes as they are in the transplantation of skin. The application of a dressing is never possible and infection is very apt to occur because of the

exposed condition of the graft. Rubbing against the opposing surface is inclined to produce displacement and the bathing of the graft in a continuous secretion may cause it to float away. The only clinical use so far made of mucous membrane grafts has been with the squamous celled mucous membrane of the mouth which has been successfully employed in the repair of defects of the conjunctiva.

There had been little investigation made on the subject of the transplantation of cylindrical and columnar-celled mucous membrane until Laxar successfully the vermiform appendix from the same person for the repair of a defect in the urethra after the excision of a stricture. This has been followed by the work of Strelker who used the appendix for the restoration of the urethra in cases of hypospadias. Axhausen has studied the site of the mucous membrane of the stomach and bladder in dogs in autoplasmic homoplastic and heteroplastic transplantations. The grafts included mucosa, muscularis mucosae and submucosa which were transplanted on to the peritoneal surface over the stomach or bladder where they were stitched in place with catgut sutures. They were examined from 14 to 70 days later. Heteroplastic grafts from the rabbit were used four times with rapid death and absorption of the grafts in every case. In ten homoplastic transplantations the grafts all died and became surrounded by granulation tissue. Absorption of the epithelial portion of the graft was rapid but the muscularis and connective tissue persisted for a much longer period giving to the transplant the appearance of an incompletely organized scar.

In the autoplasmic transplantations the results were quite different. The mucous membrane remained alive in all 16 experiments and possessed a marked tendency for proliferation leading to the formation of multiple cysts some of which in the two months old specimens reached the size of an egg. In none of Axhausen's specimens was mucous membrane transplanted into a location where it had a function to perform so that the influence of functional irritation upon the course of the transplant has not yet been tested experimentally. Not enough cases have been reported for one to judge as to the value of the mucous membrane of the appendix in the repair of the urethra in operations for stricture and hypospadias. However if such operations are attempted from Axhausen's experiments it would seem advisable to rely only on the mucous membrane of the patient's appendix for the source of material.

FAT TRANSPLANTATION

Because of its low degree of specialization and relatively poor blood supply fat would appear to be one of the easiest tissues in the body to transplant successfully and the results, both of the operations in man and of experiments in animals, prove this to be the case.

Transplants of fat have long been used for filling out defects about the head, but it has been only within the last few years that their use has been extended to other regions of the body. Experiments have been performed to determine the fate of the different kinds of grafts.

Autoplastic transplants, in both man and animals, were studied in 1923 by Maklax. He found that in a part of his experiments in which fat was transplanted into bony cavities practically the whole transplant took and became attached but that later on there was proliferation and contracture of the interlobular connective tissue. In the others there was considerable breaking down of fatty tissue and marked increase of the fibrous elements so that eventually in some cases the fat was largely replaced by scar tissue.

Homoplastic transplantations into the lumbar region of rabbits have been carefully studied by Rehn. He found that they were easily infected and that the grafts frequently sloughed out despite the most careful asepsis. The majority took and became attached to the surrounding tissues. Shrinkage was noticed after the fourth week and continued until in the oldest experiment at the end of 24 weeks the size of the transplant had diminished one third. Softening and small cyst formation were noticed about the periphery of the grafts after the tenth week, but the central portions appeared to be if anything somewhat firmer than normal. Microscopically the interlobular connective tissue was seen to be hypertrophied in the younger specimens and transformed into dense fibrous tissue in the older ones, giving to the transplant an indurated character. The fat of the fat cell gradually underwent necrosis broken up into globules and was either removed or collected into islands, which formed the only cyst about the surface. The central portion of large transplants also underwent necrosis but regenerated by the proliferating fat cells which survive and by other new cells which seem to come from the interlobular connective tissue. At first their fatty content is small but it gradually increases until at the end of 24 weeks the amount in each is more than half of the normal. Giant-cells and phagocytes are seen actively engaged in removing the broken down portions of the transplant. These experi-

ments show that only a part of the transplant lives that its fibrous content is increased and that new fat is gradually formed to take the place of that which breaks down and is absorbed.

Clinically fat has been successfully used by Rehn Czerny Neuber Lexer Bier and others for filling out defects about the face caused by injuries and infections resulting in destruction of bone and depressed scar formation as after frontal sinus and mastoid operations, depressed fractures etc. The scar is dissected loose through a small incision and strips of fat from the abdominal wall stuffed into the defect. In ophthalmology fat has been used to fill out the orbit after enucleation of the eye and according to Verderame with good results in Axenfeld's clinic for the past 15 years Barraque, Marx and others have used fat to fill out the bulb of the eye after eversion but according to Marx it does not remain alive because of the poor opportunity for the reestablishment of circulation connective-tissue substitution occurs. The breast region has been filled out by the transplantation of a lipoma by Czerny Lexer and others.

In recent years the extensive use of fat from the abdominal or gluteal regions for filling out bone cavities, the result of osteomyelitis, myeloid sarcoma, bone cysts and tuberculosis has been reported by Mallas Klopfer Krabbel Rehn and others. The diseased focus is thoroughly cleaned out and hemostasis is obtained before the fat is inserted the wound is closed without drainage. The results have been variable. In aseptic wounds the transplant usually takes but where fistulae are present sloughing out is the rule. Bone very slowly takes the place of the fat in those cases which have been traced for some time after operation. Fat behaves very much the same as a Morhof Vosetig plug with the one advantage that it may eventually be substituted by new bone. The use of a fat and fascia transplant in arthroplasty in brain and dura defects and for surrounding sutured nerves and tendons will be spoken of under fascia transplantation.

FREE TENDON TRANSPLANTATION

Since the advent of modern surgery occasional attempts at the repair of defects in the course of tendons by the free transplantation of tendon have been made. Gluck demonstrated its feasibility in 1881 and Heuck its practicability in 1893. However plastic operations upon tendons were performed chiefly by means of dead foreign materials such as silk catgut and silver wire until the recent researches of Kirschner Rehn

and Lewis and Davis excited new interest in the subject of direct tendon transplantation and led to its more extensive application.

The fate of transplanted tendon has been determined by the above-mentioned writers and most accurately by Lewis and Davis. The behavior of autoplasmic and homoplastic grafts is very similar with the advantage in favor of the former so that they will be considered together. A marked difference was found between tendon transplanted into the subcutaneous tissues and that which was transplanted and sutured into a tendinous defect where it was called upon to functionate. The cells of the former retained their vitality and stained well but there was not a sign of proliferation to be seen. After a number of days shrinkage into a small ball of tendinous tissue was the invariable result. This shrinkage is due to disuse analogous to the atrophy which occurs in a paralyzed limb. On the other hand where the position of the transplant was such that it had a function to perform its cells not only remained alive but it rapidly increased in size and became united to the ends of the tendon. This increase in size was due to some extent to edema of the transplant from imperfect circulation but chiefly to a marked proliferation of the cells of the peritendium externum and peritendium intum forming a mantle surrounding and partitions throughout the transplant. There were some degenerative changes in the tendon the fibrillae being swollen and gnarled with small areas of hyaline and granular changes. These proliferative and regressive changes were most marked during the second to the fifth weeks, after which the tendon rapidly diminished in size and by the end of 59 days had practically returned to normal. These two sets of experiments show the importance of functional irritation for the occurrence of hypertrophy rapid union and metamorphosis of the transplant. Hence the necessity for careful and firm suturing and early use of the repaired tendon as emphasized particularly by Lexer and Lewis and Davis.

Clinically free transplantation of tendon has been used almost entirely for filling in defects in the course of the long flexors and extensors of the hand resulting either from accidents or phlegmons of the hand. Lexer and Rehn have reported upon 8 cases treated in the Jena Clinic by this method. Tendon from the same individual used for homoplastic transplantation has not worked so well in man as in animals. A quadriceps tendon in a knee joint transplantation was repaired by homoplastic transplantation of the Achilles tendon with subsequent sloughing out of the tendon and

infection and loss of the limb. The transplants for the hand tendons are taken from the palmaris longus through two small incisions above and below. In case of the flexor tendon an incision should be made in the palm and its proximal end isolated and sutured to one end of the transplant. Then the skin is undermined with an elevator clear to the finger tip where a second incision is made and a probe, with an eye at the end is carried back through the tunnel a ligature to which the free end of the transplant is fastened is threaded through it, and the tendon is then pulled into the tunnel, where it is fastened to the bone at its free end. Early movement is begun and surprisingly good results have been obtained, as were shown by photographs accompanying the communication. Kirschner prefers strips of fascia to free tendon transplants and claims that the fascia becomes transformed into tendon. Lewis has used a fascial tube in the same way but has shown by examination of the excised portion that it acts as a guide for tenoblasts which grow out from either end of the tendon and restore its continuity. Under favorable conditions the fascia may be transformed into the tendon sheath.

FASCIA TRANSPLANTATION

Kirschner in 1909 was the first to demonstrate the viability of transplanted free fascia, and since that time it has been used clinically in a great variety of conditions principally for the repair of defects in mesoblastic structures. The fate of autoplasmic and homoplastic grafts in animals as shown by the studies of Kirschner, Lewis and Davis and J. S. Davis is approximately the same but Kirschner from an analysis of clinical results in a recent article gives a very decided preference to the autoplasmic graft for use in human beings. When transplanted into almost any tissue or on the wall of any aseptic cavity of the body the transplant lives and becomes united to the surrounding tissues. If in this new location it is not subjected to any movements or strain shrinkage and some connective tissue degeneration occurs converting the fascia into a scar. When transplanted into a defect where tension is thrown upon it the functional stimulation maintains its normal size or may even lead to hypertrophy. The two sources of the material most often employed are the fascia lata of the thigh and the rectus abdominus sheath from which the fascia may be taken for use during abdominal operations.

As to the undoubted uses to which transplanted fascia may be put there is still a great deal of doubt since most of the operations have been

performed in recent years and sufficient time has not yet elapsed in which to judge of their results. Kirschner who seems to be championing its cause, has recently published a comprehensive review of the subject and the extensive uses to which he puts it in the repair of defects and deformities in various parts of the body border well on the fantastic. In repairing divided tendons he recommends that, after suturing a cuff of fascia be applied about the line of suture in order to prevent the formation of adhesions. Defects in the course of tendons may be repaired by a bridge of fascia which is folded about and sutured to the liberated ends as related in connection with tendon transplantation. Kirschner reports some good and other bad results obtained by this method.

Ptosis may be corrected by the transplantation of a band of fascia which runs subcutaneously from the tarsus below to the occipitofrontal muscle above. The appearance of the face in case of facial nerve paralysis has been improved by anchoring the region of the angle of the mouth to the zygoma. Kirschner recommends a band of fascia for this purpose.

Kirschner recommends the use of fascial transplants for fixation purposes in certain cases of flat-foot and other foot deformities and in habitual peroneus tendon patellar and shoulder dislocations. He has also made use of them for the fixation of organs, as in nephropexy and orchidopexy in cryptorchism but the advisability of resorting to any of these procedures seems doubtful.

Fascial strips have been used to tie around the pylorus for closure in case of gastro-enterostomy in which the diseased process has not produced a narrowing of the stomach outlet. Experiments by Bogaljuboff have shown that while this does not completely obstruct the lumen it produces more of a permanent constriction than anything else that has been tried. Wilms claims that this is due to the gradual shrinkage which the fascial band undergoes. Necrosis with cutting through and escape into the lumen does not occur as is the case with non absorbable ligatures such as silk and silver wire.

Thole, Enderlein, Kirschner and others have used sheets of fascia for the repair of large ventral and occasionally of inguinal and femoral herniae and Payr for patching large defects in the parietal pleura the result of extensive resections of the chest wall. In a few instances fascial flaps have been sutured over ruptures of the liver and spleen for controlling hemorrhage. For many years attempts have been made to reinforce sutures of

the cesophagus, stomach and intestines applied after perforation or resection by covering them over with living tissue. Senn first used omentum for this purpose in 1888 and since then it has been used frequently. König has recently tested out both experimentally and clinically the value of fascia for this purpose and has obtained satisfactory results. Wound of the ureters have been repaired both clinically and experimentally by the use of fascia but the results have been unsatisfactory as stricture formation and hydro-nephrosis nearly always result. Lewis and Davis have successfully used fascia for the repair of defects of the common bile duct in dogs. A flap of fascia lata was sutured about either end of the divided duct and then into a tube. Marked dilatation of the fascial tube occurred forming a sac about the size of a gall bladder but the duct remained patent.

Defects of the dura resulting from compound fractures the removal of tumors of scars and adhesions in epilepsy etc have been repaired extensively by Eiselsberg. Lever, Korte, Payr, Lewis, and others with transplants taken from the fascia lata. In epilepsy particularly a combined fat and fascia transplant has been given the preference. The results of this procedure are somewhat uncertain as yet.

Sutured nerves have been surrounded by a cuff of fascia and defects in their course have been bridged over with the idea of conducting the outgrowing fibers of the proximal end into the distal portion.

In the mobilization of ankylosed joints free and pedunculated flaps of various compositions have been placed between the end of the bones to prevent the recurrence of fibrous or bony union and to aid in the formation of a new joint cavity. Of these agents which include fascia, fat and fascia muscle and prepared animal membranes of various sorts fascial or fat and fascial flaps have proved to be the most satisfactory both in animal experiments such as those of Sumita and Allison and Brooks and in operations on man as shown by the results of Murphy, Payr and many others. According to Allison and Brooks there is no difference in behavior between a free and a pedunculated flap of fascia when placed between the ends of the bones. In both instances the flap undergoes necrosis and absorption but by causing exudation and separating the ends of the bones for from two to four weeks, it permits of the formation of a fibrous coat over each end and a capsule partly re-forms leaving a joint cavity filled with a slightly bloody or serous fluid. Without the implant less exudation occurs and

fibrous union between the bony ends results. Heteroplastic substances interposed such as Cargile membrane, chromicized pig's bladder etc are more rapidly broken down cause much more reaction and exudation and stimulate an overproduction of connective tissue (or callus) from the ends of the bones resulting in a fibrous union which later on may ossify. On the other hand Sumita claims that while the free transplant breaks down and disappears nearly all of the pedunculated flap lives. The flap as a result of squeezing and crushing between the movable ends of the bones becomes oedematous and hæmorrhagic and undergoes hypertrophy in some portions and necrosis in others. All this leads eventually to the formation of one or sometimes more cavities in the transplant the walls of which thin out and become attached to the ends of the bones and to the newly forming capsule and a new joint is slowly formed. It is very similar to a ganglion in the structure of its walls and its mucoid contents. Microscopically the wall consists of fibrous tissue without any endothelial lining. However Murphy reports re-formation of a synovial lining in the joint of a dog operated on by him in this same manner. Clinically the use of pedunculated flaps has been much oftener resorted to and has given the most satisfactory results.

BOVE TRANSPLANTATION

It is in bone surgery that tissue transplantation has found its most extensive field of usefulness. The feasibility of bone transplantation was first demonstrated by Ollier in 1898 and it has been employed clinically with increasing frequency ever since. During the past eight or ten years this increase has been particularly marked and the extensive statistics of Murphy, Albee, Lever, Streissler and others testify to the satisfactory results which have been obtained. Great interest has centered about the two points as to what the composition of the transplant should be and what is the fate of the transplanted bone. Ollier thought that when autoplasmic bone plus periosteum and endosteum was transplanted into a bony defect where it had a function to perform the entire transplant lived and this view has been upheld in recent years by Maccewen and McWilliams although they offer little microscopical evidence in its support. In 1892 Barth claimed as a result of his experiments that the entire transplant died and underwent substitution by an ingrowth from the surrounding proliferating bone in other words the transplant acted merely as a scaffold. Murphy now holds this view but

he has offered no histological examinations in support of it. Barth has now rejected it in favor of the views of Axhausen who as a result of extensive experiments, concluded as follows

The periosteum and endosteum of the transplant remain alive while all of the bone cells except a few about the cortex undergo necrosis and absorption. The periosteum and endosteum proliferate and produce callus which takes part in the formation of union between the ends of the transplant and the bone into which it is transplanted. They also supply the cells which grow into the Haversian canals with their revascularization absorb the old bone and deposit new in its place. Thus, eventually the dead cortex is substituted by new bone formed from the osteogenic cells of the transplant which live. When the periosteum is removed callous formation and substitution are both delayed because the chief source of osteogenesis from the transplant itself has been removed. Whatever substitution of the dead portion occurs from the transplant's own surviving cells then comes from the endosteum and the few surviving superficial cells of the cortex. These views have practically been substantiated by the extensive histological studies of Frauchenheim Cotton and Loder and myself. I have found that even where both periosteal and endosteal surfaces were whittled away there is some callous formation on the ends of the transplant and although after 75 days absorptive changes predominated there was some slight substitution of the old cortex by bone that had formed from a few surviving cortical cells. In a transplant with periosteum and endosteum on it is quite plain that the callus formed at the two ends and the substitution which goes on within the dead cortex comes from the surviving cells of the transplant because at the end of 40 or 50 days the amount of bony callus about the transplant is large and substitution is well under way while both intermediary calluses at the ends are fibrous, thus ruling out completely the possibility of osteoconduction from the ends of the fragments.

The ingrowth of new bone from the ends or surrounding portion into which the transplant is placed which new bone substitutes the dead portion may occur if there are no osteogenic cells on the transplant, as in case periosteum and endosteum are removed or die either as a result of infection or the cutting off of nutrition by a surrounding hematoma. However this is the exception, and the great bulk of the transformation which occurs in a transplant even with its periosteum removed is accomplished by the activity of its own surviving osteogenic cells.

When bone is transplanted into the soft parts the conditions of nutrition are the same and the same portions survive or die as in transplants placed into bony defects. But regenerative and transformative changes are entirely different in accordance with Roux's law of functional irritation. The bone in the soft parts has no function to perform hence it usually produces little or no new bone and is gradually absorbed or becomes encapsulated. detached periosteum usually meets with the same fate. In my experiments with periosteum from the ulna transplanted into the thigh muscles nothing more than a millet seed sized mass of bone ever formed. In McWilliams experiments with costal periosteum transplanted into the abdominal muscles extensive new bone formation occurred in some cases. It is a question if the abdominal respiratory movements may not serve as a functional irritant to such transplanted costal periosteum resulting in the new bone formation. That periosteum in its normal position possesses bone-forming properties has been demonstrated beyond a doubt by numerous workers such as Cornil and Coudray so that the claims of Macewen are not to be taken seriously.

The uses that have been made of transplanted bone are too well known to call for little more than enumeration. Defects in the course of bones, the result of traumatism tumors, bone cysts etc may be filled in with a transplant of any dimensions provided the conditions necessary for a successful transplantation are present. Sievers has transplanted an entire bone, using a foot phalanx to take the place of finger phalanx excised for sarcoma. Old ununited fractures are best treated by bone transplantation. The introduction of a medullary splint as used so extensively by Murphy is the best form of operative procedure although an external splint or the inlay method of Albee may also give good results.

Bone transplants may be used to produce ankylosis of joints or arthrodesis. Lexer introduced this method for fixing the ankle-joint at right angles in cases of paralytic club foot, but according to the reports of Schewandin from Bier's Clinic it has not given as satisfactory results as those obtained by the Albert operation. Kanavel has used the same procedure for the production of ankylosis of the knee in cases of Charcot's joint in locomotor ataxia. The best form of transplant is one from the same person and containing both periosteum and endosteum. Homoplastic transplants are successful but not as many of the osteogenic cells remain alive and actively proliferate as in autoplasmic grafts.

Heteroplastic grafts behave in the same manner as dead bone.

MUSCLE TRANSPLANTATION

Free transplants of muscle regularly undergo degeneration as the cells are too highly differentiated to withstand the nutritional disturbances resulting from cutting off of the blood vascular circulation. Muscle with everything severed except its nerve supply meets with the same fate. The changes which occur in the dead transplant are variable. Usually absorption occurs rather rapidly but in other instances where necrosis occurs slowly some ossification of the area may result.

NERVE TRANSPLANTATION

The nervous tissue of a transplanted nerve undergoes necrosis and absorption leaving the connective-tissue framework as the only surviving portion. It serves as a conductor for the regenerating axis cylinders. Hence the effect of a nerve graft is little different from that of a graft consisting of fascia or vein and since autoplasmic nerve grafts are so difficult to obtain suture materials, portions of veins or tubes of fascia are used almost entirely in operations for the restoration of defects in the course of nerves.

BLOOD-VESEL TRANSPLANTATION

The perfection of a satisfactory technique for the suture of blood vessels by Carrell Guthrie Horsley and others has led to extensive studies on the transplantation of segments of one vessel into defects of another. The changes in such an artery or vein transplanted into an arterial defect with its completely severed vascular and nervous connections are as follows:

Union at the two ends is by fibrous tissue formation with complete encapsulation of the sutures. Gradual dilatation of the transplanted vessel occurs with thickening of its wall. This dilatation is more marked and occurs more rapidly with a venous than with an arterial transplant. After a certain time the condition becomes stationary and a venous wall thickens relatively more than an arterial. The mechanical functioning may remain good for an indefinite period even in the case of a venous transplant. Live heteroplastic, cold storage and chemically fixed transplants serve almost as well as autoplasmic and homoplastic grafts. The histological changes which the grafts undergo have been studied by Carrell Guthrie Borst Enderlen and others and are as follows:

In the autoplasmic and homoplastic grafts the

muscular and nervous elements undergo necrosis. The connective-tissue elements very largely live and proliferate to some extent thus increasing the thickness of the vessel wall. Muscle is gradually absorbed and substituted by connective tissue from the surrounding tissue. The ends of the vessels and the surviving portion of the graft so that the vessels gradually converted into a dilated fibrous tube. The endothelial lining of the transplant according to Borst and Enderlen dies and is replaced by an overgrowth past the lines of suture from the ends of the vessel. The tissues of heteroplastic and chemically fixed transplants are gradually completely substituted by ingrowing connective tissue.

The clinical application of vessel transplantation into vascular defects has been very limited. Goecke and Mantelli report the successful use of the saphenous vein for repairing defects of the popliteal and femoral arteries. Blood vascular grafts have been used by Payr and others, in place of the Mikulicz silver tube in an endeavor to establish a permanent connection between the lateral ventricle and the subdural space or the jugular vein for the drainage of hydrocephalus. The operative mortality has been high and the result discouraging. The long saphenous vein has been used by Valkas Tanton Unger and Becker to take the place of the urethra in hypospadias and stricture operations but with poor results.

Wrede and others have used pieces of vein to repair defects in the course of nerves with the idea of obtaining an outgrowth of fibers along the lumen of the vessel.

PARATHYROID TRANSPLANTATION

As soon as it was discovered that post-operative tetany was the result of the absence of parathyroid secretion attempts were made to cure it by the transplantation of parathyroids. This has led to a great deal of experimental work despite which and the meager clinical attempts there is still some degree of uncertainty as to the usefulness of parathyroid transplantation. Halsted Crispien Biedl Leighton and Swarts Lefschner and others have studied experimentally the effects and course of both autoplasmic and homoplastic transplantations in animals where parathyroid tissue was either normal deficient in amount or totally lacking. It is agreed except for Halsted that both homoplastic and autoplasmic transplantations are successful the latter being more frequently so. After total extirpation of the parathyroids a permanent cure of the resulting tetany by the autoplasmic or homoplastic transplantation of parathyroids has never been

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ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE

Plondka, F. J.: *Preparatory and Post-Operative Treatment* *J. Lancet* 1933 22: 1685

By Surg. Gynec. & Obst.

The author makes a plea for better and more thorough preparatory and post-operative treatment of patients and regrets that the man of large experience who is most competent to administer and direct the treatment intelligently is usually so actively employed with operative and other work that he is often compelled to entrust the after care of his patients to indifferent inexperienced or otherwise incompetent assistants, who in turn, are apt to delegate the nurse to report the condition and depend on her to apply the treatment. The patient therefore is often neglected or at least deprived of the attention his condition demands.

By preparation is not meant the old time method of starving and purging for a week beforehand, with consequent impairment of the patient's strength but a painstaking investigation of all the organs and functions of the body with appropriate treatment of any faulty conditions that may be found, postponing the operation if possible until the patient is fit.

The author recommends a restricted diet for two or three days before operation with the administration of a cathartic twenty-four to thirty-six hours before operation.

Surgical shock is more easily prevented than cured and a close adherence to this theory gives better results than deferring treatment until symptoms appear. The author recommends normal salt hypodermoclysis before the operation is started, in those cases, in which there is a possibility of shock developing. In septic cases and where the operation has been prolonged proctoclysis by the drop method is begun one and a half hours after leaving the table. In the use of these measures in over a thousand cases there has not been a single case of severe shock. No stimulants are recommended. The ordinary post-anesthetic vomiting requires no treatment beyond rinsing the mouth absolute quiet and a hypodermic of morphine if vomiting persists the use of a stomach tube is recommended. For gaseous distention the author recommends enemas change of position and the rectal tube. If unrelieved turpentine stupa or eserine salicylate are used. The best results have been obtained however by the use

of 20 ccm. hormonal intravenously. If this fails, operative procedures are recommended.

Acute dilatation of the stomach post-operative atidosis and pneumonia are next discussed. The anodynes are recommended in post-operative pain, and the author believes there is no valid objection to their judicious use for the first twenty-four to forty-eight hours.

EDWARD L. CORNELL.

ANÆSTHETICS

Babcock, W. W.: *The Dangers and Disadvantages of Spinal Anæsthesia*. *A. J. M. J.* 913 2012, 897

By Surg. Gynec. & Obst.

The author introduces his article with a consideration of the general question of the innocuousness or safety of a given anæsthetic and states that it is a relative matter. No method of anæsthesia yet discovered is free from dangers or unpleasant consequences but as a standard for comparison the universality of ether as a general anæsthetic makes it a natural basis. Experiences clinically with other methods being judged by equivalent statistics. However reports from limited sources on either vary so in showing its mortality that exact facts are not easily known. From no deaths in 60,000 administrations to 1 in 500 and even in one emergency hospital in a coal region to 1 in 100, is an anomaly extremely hard to explain.

As to nitrous oxide a recent demonstration of it in Babcock's clinic by an expert resulted in one death from the anæsthetic, one hemiplegia, one cortical palsy of the hand and forearm and one circumflex palsy out of six cases anæsthetized coming to spinal anæsthesia. He has collected 5,000 cases in which there were 1 death. He says many were handicapped patients some had been given ether unsuccessfully some were poor surgical risks for any method while some had contra-indications for this method.

On morbidity the author collates statistics on nausea and vomiting albuminuria, post-operative pains duration of the anæsthesia afterwards, headache ocular and other palsies and concludes that nothing found lays more morbid results at the door of spinal anæsthesia than of ether. On cautions to be observed he emphasizes asepsis of course selection position and movement of the patient repeated injections preventing the breaking of the needle and on other points he comments on consciousness of the patient morale of the operating

room inability to properly introduce the solution.

He recites experiences to illustrate the dangers, advantages and disadvantages in the method with the following conclusions. In his hands ether and spinal anesthesia have been about equally dangerous in unskilled or careless hands; the latter is undoubtedly more dangerous; morbidity from spinal anesthesia is less; ocular palsies are due to faulty solutions; lumbar to faulty injection; neurotic symptoms are not more common than with ether; maintenance of position for half an hour after injection is vital; repeated injections are harmless. Contra indications are circulatory subtenion, great depression of respiratory centers, shock, collapse, myocarditis and intrathoracic effusions. Operations in the upper abdomen are more dangerous than in the lower. The newer methods of anesthesia: spinal anesthesia, nitrous oxide-oxygen, intravenous ether should have their use restricted to selected cases and administration by qualified anesthetists. For general indiscriminate use ether remains the standard.

FRANK W. PIERCE

Cathcart E. P. and Clark G. H. The Influence of Carbon Dioxide on the Heart in Varying Degrees of Anesthesia. *J. Phyol.* 93: 14, 393.
By Surg. Gynec. & Obst.

Cathcart and Clark have carried out extensive experiments on the effect of the administration of

varying mixtures of carbon dioxide and air to intact animals under varying degrees of anesthesia. Several very instructive and important tracings are given and they summarize their results as follows:

When the animal is lightly under the influence of ether—in all cases the animals are quite unconscious—the effects of the administration of carbon dioxide by the respiratory tract produces with almost perfect regularity a reduction in the rate and amplitude of the heart-beat. Whereas when the animal is deeply under that is when the administration of the anesthetic is pushed until the cardiac contraction is slightly affected there is at most merely the slightest reduction in the rate and amplitude of the heart beat and at times none at all.

The effect on the blood pressure of giving carbon dioxide was very marked in that a sharp rise of pressure of 30 to 40 mm Hg occurred when the animal was lightly anesthetized but there was no rise of temperature when the animal was deeply under. It is to be noted that the carbon dioxide was administered for a very brief period only. The possibility that the observed reaction in the case of the animal lightly anesthetized was a protective phenomenon is not considered.

The work is good but the facts presented do not justify the practical conclusion that if anesthesia is to be carried out with any degree of safety it must be deep.

WALTER M. BOOTHBY

SURGERY OF THE HEAD AND NECK

HEAD

Mann R. W. and Loudon J. J. Frontal Tumors. *Canad. Med. Ass. J.* 93: 662.
By Surg. Gynec. & Obst.

The symptoms of frontal tumors are both general and local. The general symptoms are those referable to increased intracranial pressure and include headache, vomiting, optic neuritis, vertigo and mental failure. The local symptoms of frontal tumors are rather confusing as a rule. The tumor usually involves one of the sinistral areas in the brain and often it is impossible to positively locate the situation of the tumor. In some cases there are noticeable changes in conduct, loss of power, orientation, morbid fears, anosmia, insomnia, amnesia, illusions, hallucinations, delusions, etc.

The varieties of tumors of the brain are as follows:
1. Glioma chiefly found in the cortex, pons or medulla, occurs chiefly in the middle aged or young.

2. Sarcomata arise from the meningeal blood vessels; the bone they are the most common type in adults.

3. Tuberculoma is chiefly basal and especially in the cerebellum; it is by far the most common type in childhood.

4. Gumma is mostly seen at the base of the

brain or brain axis; it is very frequent in adults.

5. Carcinoma is almost always secondary.

6. Parasitic cysts.

In connection with a general discussion of frontal tumors there is a report of a case of glioma of the right frontal lobe which came to autopsy. The personal and family histories of the patient were negligible; the initial symptoms were twitching of the limbs followed by unconsciousness. Severe headaches and irrational talking soon followed and in addition the patient had difficulty in walking. The reflexes were normal except that the abdominal and epigastric were absent on the left side. The Wassermann test was negative both on the blood and the spinal fluid. However the patient was placed on mercury and the iodides and apparently was improving. Death however resulted and the autopsy revealed a glioma of the right frontal lobe.

J. H. SKILES

Von Eiselsberg A. and Ranke E. Surgical Treatment of Tumors of the Brain and Spinal Cord (Über die chirurgische Behandlung der Hirn und Rückenmarkstumoren). *Arch. f. Klin. Ch.* 93: 300.

By Zentralblatt für ges. Chir. u. Grenzgeb.

This is an exhaustive report of all the operations of this kind performed for the last twelve years at

the surgical clinic in Vienna. Detailed case histories are given and all failures reported. Reports of operations on 168 cases of brain tumor show that of 75 cases of tumors of the cerebrum 25 died from the operation, 21 died later and there was no report from 5 of the 24 remaining ones, 9 recovered, 9 were improved and 5 were not improved. Of the 16 by pophysectomies, 4 died soon after the operation from meningitis the rest were improved. Of the 32 cases operated on for tumors of the cerebellum 17 died from the operation and 8 died later. Of the remainder 3 were cured 2 improved 2 not improved. Of the 17 tumors of the auditory nerve 13 died from the operation, and 3 were cured nothing is known of the other. Of the 28 palliative operations, 4 died soon after the operation 7 died later one being a suicide 12 were improved 5 not improved.

If the examination shows a decrease in the coagulability of the blood the patient is treated for several days with calcium lactate. The resistance of the cerebrospinal fluid to infection is increased as much as possible by the giving of urotropine. The field of operation is injected with one-half per cent novocaine-adrenalin solution less for its anesthetic effect than to prevent hemorrhage, ten minutes after the injection, a light ether anesthesia is begun. Large flaps of skin perosteum, and bone should be made so as to get a good view of the tumor.

Hemorrhage from the bone is best controlled by driving in Japanese wooden pegs. Bleeding from the soft parts that cannot be otherwise controlled is tamponed if hemorrhage has not stopped at the end of the operation a tampon of living tissue fascia, and muscle is formed.

Recently the operation has usually been carried out in two stages, the second being done eight or ten days after the first. A cross-shaped incision is made in the dura in the opposite direction from that of the bone flap, and if there is any abnormality in the dura it should be excised until healthy tissue is reached the tumor is then removed as carefully as possible with a spatula and the finger. Tampon and drainage should not be employed it is better to make a very careful primary suture of the dura and skin, as the danger of meningitis and fistula is thereby decreased. If the dura is removed or there is difficulty in replacing the brain a plastic procedure may be carried out with fascia lata. It is better to sacrifice the bone than to give up making a primary suture. The 4 successful cases of plastic operation give no reason to believe that the presence of the fascia causes epileptic attacks.

In operations on the cerebellum the bone is removed with Lane's forceps. In discussing the causes of the high percentage of failures, the relatively high percentage of cases of meningitis is noted, and this is attributed partly to deficient technique and partly to poor hygienic conditions in the clinic. The even more frequent cases of death from shock can be partly avoided by operation in three stages. Reports of operations for 17 tumors of the spinal cord are 2 cases of death after the operation 3 deaths

later 3 cases cured 6 improved, 1 unimproved, and 2 lost sight of. In 23 laminectomies for injuries, spondylitis, and for the sake of performing Forster's section of the roots, 3 deaths resulted after the operation 3 deaths later 9 improved, 4 unimproved. The technique consists of a one stage operation under anesthesia, after the injection of the field of operation with a novocaine-adrenalin solution urotropine and calcium are also given. The patients are placed in the left lateral position and after extensive removal of the vertebral arches the cerebrospinal fluid is allowed to escape slowly. The dura and skin are carefully sutured, but no plaster cast is used.

KRASCHEVA.

Grey E G and Emerson, L. E. A Striking Acquisition of Visualizing Power and the Development of Dreams Following a Cerebral Tumor Extirpation. *J Am M As* 29 3 14, 4 By Surg Gynec & Obst

The authors review a case in which Cushing removed an endothelioma of the dura over the right parietal region. The growth weighed 48.5 gm and at no place did it seem to invade the cortex. The patient had never been able to visualize and in order to recall the faces of even her father and mother she had to consult their photographs. By a most tedious grind she could remember eight or nine lines of poetry or prose and then but for a short time. The night of the day of the operation however she had a dream which consisted of mental images other visual dreams followed at first simple later quite complex. A number of these dreams are recorded and some are psychologically analyzed. The morning following the operation she was able to make mental pictures of objects and persons in the room, a hitherto unknown faculty. Despite the fact that she had no visual memory or imagination prior to the operation her vision had always been good up to the beginning of her illness 15 months before the operation. TORR W HANCOCK.

Stetten D and Rosenbloom J. Clinical and Metabolic Studies of a Case of Hypophysectomy. Du to Cyst of the Hypophysis with Infantile form of the Lorain Type. So-Called Type of Froehlich or Adiposo-Genital Dystrophy of Bartel. *Am J M S* 9 3 61 73 By Surg Gynec & Obst

The authors review the work done in studies of the hypophysis particularly as regards the metabolism of nitrogen phosphorus, calcium magnesium and chlorine in acromegaly. It has been shown that the carbohydrate tolerance is in no way affected by injections of the extract of the anterior lobe although a general rise in metabolism is noted after the injection. None of the other experimental work which has been done can be compared with this study of a case of perversion of the pituitary gland the case being a classical type of hypopituitarism the opposite of acromegaly. The condition was due to cyst of the hypophysis with progressive bitem-

poral hemianopsia leading to optic atrophy and infantism of the Loran type. The patient was twenty-two years of age. It was noticed when he was ten years old that he was not growing normally. He complained of headaches which were severe. His eyes watered and he could not read from the black board at school.

His eyesight failed until he was practically blind. Physical development was retarded. He was very irritable with no indication of sexual power. There was no hair on his face, axilla or pubic region. He was fairly well nourished. His chief complaints were blindness, headache and arrested development. He being about the size of a nine or ten year old boy.

Ossification of the bones of the hands corresponded to about that of a ten year old boy as shown by the skiagraph. A skiagraph of the skull showed an erosion of the dorsum of the sella turcica and of the posterior clinoid processes, also an erosion of the posterior wall of the sphenoidal sinus.

After administration of urotropine and nasal irrigation a Kanavel operation was done and a cyst whose contents was sterile was evacuated. Following this there was extracranial infection with profuse discharge which seemed quite serious but the patient fully recovered. Since leaving the hospital he has greatly improved. He has no headache but his eyesight is not much changed on account of the already present optic atrophy.

A study of the metabolism results show a slight retention of nitrogen while the absorption of fat and protein was not influenced and the percentage of the various urinary constituents were normal with the exception of neutral sulphur and undetermined nitrogen, which are shown by the tables to be abnormally high.

H. A. PORTS

NECK

Callison J. G. and MacKenty J. E. Tumors of the Carotid Body. A. S. S. Phila. 9311, 740 By S. R. Gynec. & Obst.

The author first considers the carotid body from a general anatomical, embryological and physiological viewpoint as follows:

Atomology. When present — usually between 20 and 30 years — the body is found as a rule a little posterior to the bifurcation of the common carotid artery and attached to either the internal or external branch by the ligament of Mayer through which it receives its blood supply. The nerve supply is from the vagus, glossopharyngeal, superior laryngeal and superior cervical sympathetic.

The structure is alveolar and consists of groups of large rounded or polyhedral, epithelioid cells closely adjacent to the endothelium of the capillaries, tufts called by the Germans Zellballen.

Embryology. The view most generally supported is that of Zuckerkandl, that these bodies are derived from the sympathochromaffin system,anlage which buds off from the central nervous system in embryos of 30 to 35 millimeters. Similar cells are

found in the medulla of the adrenals, pituitary body and sympathetic ganglia.

Physiology. Its not constant presence, the contradictory results of experimental work on blood pressure and lack of clinical observation indicate that whatever the function may be it is not important.

In the authors case an Irishman 41 years old with a negative family and past history six weeks previous had noticed a hard tumor on the right side of the neck preceded by loss of weight and strength. Three weeks later he began to complain of difficulty in breathing and swallowing, aphonia, and pain in the throat.

Examination showed on the right side of the neck a hard immovable board like tumor extending from the angle of the jaw to the clavicle and from the thyroid gland well into the posterior triangle with an absence of pulsation. The throat showed paralysis of the right cord with the larynx displaced to the left — Wassermann was negative.

At operation an elastic lobular mass of reddish color was found so closely adherent to the common carotid artery, veins and nerves of this region that complete removal was impossible. The portion anterior to the vessels however was dissected out and the wound closed with drainage. After three weeks of infection and hemorrhages the patient died.

The pathological report showed typical findings of a tumor of the carotid body probably endothelioma but also diagnosed by competent men as carcinoma, sarcoma and endothelial sarcoma showing its complex structure.

Keen and Funke in 1906 collected 29 cases from the literature since then Callison and MacKenty have found 31 new cases reported.

In these 60 cases 54 have come to operation of these 32 have recovered and 2 died. In the 32 cases surviving 3 have had hemiplegia with aphasia, 4 more or less dysphagia, 1 constant cough, 5 deviation of the tongue, 4 eye symptoms and 4 more or less facial paralysis.

The tumors are most common between 20 and 50 years of age and affect both sexes equally — beyond this very little is known.

The growth usually extends over a long period of time during which they behave as benign, giving rise to no symptoms other than deformity. Later they may take on rapid growth and simulate a mildly malignant tumor except in a lack of anæmia and cachexia. Their structure is various having been classed with every form of malignant tumor.

In the early stage except for deformity there are no subjective symptoms. Later there is aphonia, difficulty swallowing, some cough and some pain in the throat.

The objective symptoms are a firm elastic egg shaped mass under the sternomastoid, movable laterally but not vertically with a transmitted pulsation but not expansile. Later there is displacement of the larynx, paralysis of the cords,

congestion of the throat and irregular pupils with failure to react to light

The differential diagnosis is usually most difficult

1 Cervical lymph adenitis is usually multiple and surrounding tissues may be invaded The subcutaneous tuberculin test and local reaction is positive

2 In carcinoma there is a primary focus nodes are multiple and rapid growing and there is present cachexia and anæmia

3 In sarcoma several nodes are involved there is no movement and no transmitted pulsation

4 Fibromata are more superficial harder and more movable

5 Lipomata are more superficial have a woolly feel and are very movable

6 Brachial cysts are as a rule congenital and fluctuating

7 Hodgkin's disease is bilateral from the first and gives multiple nodes

8 Aneurism has an expansile pulsation with a gurgling murmur over the tumor

9 In syphilis there is a positive Wassermann and other evidences of the disease

In closing, the authors recommend early entire removal if the tumor is not closely adherent to the vessels and other structures in this vicinity otherwise they advise leaving it alone Some surgeons recommend removal of the common internal and external carotids

PHILLIPS M CHASE

Kraus, F: Pathology of the Thyroid the Parathyroids and the Hypophysis and Their Mutual Relations (Pathologie der Schilddrüse der Beischilddrüsen, des Hirnanhangs und deren Wechselwirkung) *Deutsches med. Wochenschr.* 1913, 39, 2222, 2223 By Zentralbl. f. d. ges. Chir. 11: Gressingeb

In a paper read at the International Congress, in London the author discussed the question of secretion in the thyroid and hypophysis He again called attention to the storage of secretion in the thyroid and to the experiments of Gottlieb Trendelenburg and Hunt in which the similarity in the effect of blood from Basedow patients and thyroid extract shows the presence of a secretion with certainty From a physiological standpoint iodothyrium is to be regarded simply as the active component of the thyroid secretion The effect of the thyroid hormone is to influence the continuous toxic innervation and at the same time the autochthonous vital processes of the tissues

Kraus considers Basedow's disease a hyperthyroidism and believes that this is the right conception of it but thinks it is probable that there is not such a radical opposition between hyper and dysthyroidism as is generally supposed He regards the involvement of the thymus adrenals and sexual glands as secondary He gives the reasons for assuming that hyperfunction of the glandular lobe of the hypophysis is the cause of acromegaly Finally he discusses the relations of the internal secretory

glands to the central and peripheral nervous system, and asserts that especially in Basedow's disease there are a number of symptoms that are certainly of cerebral origin and that cannot be attributed to the sympathetic system He discusses the correlation of the glands with internal secretion, and warns against assuming that the adrenal glands are the primary agent in all diseases with symptoms of pluriendocrine disease He calls attention to our very limited knowledge on the subject and gives a systematic arrangement of the diseases of the thyroid.

Kocura.

Mayo, C. H.: Gouter; The Relation of Its Symptoms and Pathology *Northwest Med.* 973, 334 By Surg. Gynec. & Obst.

Certain physiological facts concerning the thyroid are definitely known though its exact function is still an unsettled question Absence of the thyroid in young animals, either natural or experimental, markedly retards their mental and physical development and inhibits the maturity of sex. Total removal of the gland in the adult animal causes mental and physical deterioration resulting in a condition parallel to that known in man as myxedema, a symptom-complex due to thyroproteinia Experimental hyperthyroidism has not proved successful, though certain symptoms of toxæmia are easily induced by feeding thyroid

Some cases of mild exophthalmic gouter recover spontaneously others yield to careful hygienic treatment which consists essentially of rest, quiet, mild exercise in the open air reduced nitrogenous diet etc Specific medication has been largely based on the assumption that the symptoms are due to the absorption of a toxin from the gland, and efforts have been made to neutralize the toxin or to immunize the patient against its effect

In relation to the surgical treatment of exophthalmic gouter of severe intoxication, it must constantly be borne in mind that a chronic condition regularly presenting improvement followed by exacerbation of symptoms, is being dealt with In the severe cases growing worse, operation must not be performed These cases are for a time medical, and emergent surgery is not indicated

To prevent the possibility of tetany in operating on the thyroid the parathyroid glands must be avoided and preserved even if it be necessary to replace accidentally separated ones beneath the capsule of the thyroid at the pole of the gland

Intrathoracic gouters and deep substernal gouters are of serious import and are found about once in forty operations for simple gouter Slight substernal projections are much more frequent The diagnosis rests on (1) dull area on percussion (2) the roentgenogram and (3) evidences of substernal pressure

Malignant tumors of the thyroid are not numerous Less than one per cent of the cases operated on in our clinic show malignancy Both cancer and sarcoma occur the former with much more frequency The diagnosis should if possible be made

before the growth has penetrated the capsule and involved the neighboring structures for example the trachea and muscles. The only treatment which affords any hope of relief is free removal of the entire thyroid tissue.

Baradulin G: The Morphological Composition of the Blood in Goiter and Basedow's Disease and the Changes in It after Operation (Die morphologische Zusammensetzung des Blutes bei Kropf und Basedow und die Veränderung derselben nach der Operation) *Chir u k Velam sos* 19 3 630

By Zentralbl f d ges Chir u Grenzgeb

In 18 cases 10 of goiter and 8 of Basedow's disease the author made morphological examinations of the blood once before the operation and five or six times afterward, making an examination every second or third day until ten days after the operation. The hemoglobin content was determined as well as the number of the red and white cells both absolutely and relatively. He concludes:

1. In goiter without general symptoms there are no changes in hemoglobin and red blood cells while the white ones are also normal for the most part. The lymphocytes may be somewhat increased as well as the mononuclears and transitional forms and in many cases there is also eosinophilia. These changes in the white cells were only found in parenchymatous goiter.

2. In goiter with general symptoms there was a decrease in the hemoglobin content, the red blood cells were normal or only a little decreased, the number of whites was normal but there was a relative decrease of the polynuclears and an increase of the lymphocytes and often of the mononuclears are transition forms in many cases eosinophilia. These changes were more marked in three cases of Basedow's disease but the author could not like Kocher demonstrate a decrease of the total number of white cells in every case but found on the contrary an increase in many cases. As the changes in the blood picture are more pronounced in parenchymatous proliferating goiter and as they appear after the administration of thyroid substance he believes the thyroid is a blood regulating organ. After the operation there is a decrease in the hemoglobin and erythrocytes, which in the course of a few weeks return to normal. The leucocytes increase for the first few days, the increase being in the polynuclears while the lymphocytes decrease and eosinophiles disappear. *Ilusz.*

Capelle W and Bayer R: The Thyroid and the Thyroid and Their Mutual Relations to Basedow Disease (Thyrmus und Schilddrüse in ihren wechselseitigen Beziehungen um Morbus Basedow) *Beitr kl Ch* 913 1899: 509
By Zentralbl f d ges Chir u Grenzgeb

The authors take as the basis of their discussion three of their own cases of primary thyrectomy, one

of which died with acute symptoms of intoxication. This is of special importance for investigators of the thymus have attributed acute death after thyroid operations to dysthymia. One of the two remaining cases which was discussed in detail was a moderately severe case of Basedow's disease with vagotrophic symptoms predominating which recovered three months after the operation. The authors found two cases in the literature those of Sauerbruch and Haberer of thyrectomy for strict indications in Basedow's disease. They also report 14 cases of Basedow's disease and 9 of goiter in tabulated form. By testing the tonus of the vagus and sympathetic their aim is to learn more about the thymus in Basedow's disease.

Their discussion and conclusions are purely theoretical and schematic. The chief fact that leads them to conclude that the thymus is active in Basedow's disease is that the lymphocytosis in the blood does not always disappear after the thyroid operation but it often remains and sometimes increases, the Basedow's disease however is curable. A second reason for the authors' assumptions is the decrease in the lymphocytosis after partial thyrectomy a third of more weight is the improvement of Basedow symptoms after thyrectomy which has only been observed absolutely in one of the author's cases.

From the theoretical schematic part of the work it appears that the authors believe that both thyroid and thymus secretions act upon the vagus and sympathetic, but in different degrees sometimes the one sometimes the other predominating sometimes both to the same extent. In the latter case the removal of either gland may cure Basedow's disease in either of the two preceding cases the more active gland should be removed. They find some confirmation of their views in the histology of the two glands. Cylinder cell proliferation of the thyroid or epithelioid proliferation in the thymus stimulate the sympathetic while irregular cell proliferation in the thyroid and eosinophilic cells in the thymus stimulate the vagus the improvement depending on removing the right gland. In conclusion the clinical diagnosis of changes in the thymus is discussed it is accomplished by percussion and roentgen examination of the gland and by testing the irritability of the sympathetic nervous system. *Kocher.*

Wilson, L B: The Pathology of the Thyroid Gland in Exophthalmic Goiter *Am J M S* 9 3
cd 78 By Srg Gynec & Obst

Wilson continuing his previously reported studies on the thyroid has recently reviewed the pathology of the thyroids from 1208 patients operated on in the Mayo Clinic for conditions ordinarily diagnosed as exophthalmic goiter from January 1901 to January 1913 and also as controls of the thyroids from 385 patients operated on in the same clinic for conditions ordinarily diagnosed as simple goiter during the year 1913. Besides studying the gross

specimens he has made a detailed analysis of the histology of the glands in fixed tissues and tabulated and summarized the results of his study to determine the relationship of the pathology of the thyroid to the clinical condition of the patient. His conclusions are as follows:

1. A detailed pathological study of fixed tissue preparations from 1,208 thyroids removed from patients whose condition would ordinarily have been diagnosed exophthalmic goiter showed that 79 per cent of the thyroids contained large areas of marked primary hypertrophy and hyperplasia. A parallel clinical study has shown that for a period of three years all cases with true exophthalmic goiter and from whom gland tissue was removed fall into this list.

2. In the above series of 1,208 so-called exophthalmic goiters plus 585 so-called simple goiters or a total of 1,793 thyroids but 4 instances of marked primary hypertrophy and hyperplasia of the parenchyma have been noted in cases which did not show clinical symptoms of true exophthalmic goiter. Three of these four patients were children.

3. Twenty-one per cent of the 1,208 glands studied were either regenerations or adenomata. Clinically while all of these were markedly toxic all were chronic and none of them would now be grouped clinically as a true exophthalmic goiter.

4. By assuming that the symptoms of true exophthalmic goiter are the results of an excretion from the thyroid gland and by attempting to determine the amount of such excretion from the pathological data one is able to estimate in a large series of cases the clinical stage of the disease with about 30 per cent of accuracy and the clinical severity of the disease with about 75 per cent of accuracy.

5. It would therefore appear that the relationship of primary hypertrophy and hyperplasia of the parenchyma of the thyroid gland to true exophthalmic goiter is as direct and as constant as is primary inflammation of the kidney to the symptoms of true Bright's disease.

Blackford J. M. and Sanford A. H. A Demonstration of a Depressor Substance in the Serum of the Blood of Patients Affected with Exophthalmic Goiter. *Am. J. M. Sc.* 911 (1911) 706. By Surg. Gynee & Obst.

During the past year the authors have conducted a series of experiments with a view to throwing further light on the relation of the secretion of the thyroid to exophthalmic goiter. They have studied chiefly the cardiovascular effects on the dog of intravenous injections of sterile non-hemolytic blood serum from nervous individuals and from patients affected with exophthalmic goiter. Numerous saline extracts of goiter have also been injected intravenously into dogs and the effects on the blood pressure studied.

Gley in 1911 announced that the serum of certain cases of exophthalmic goiter produces marked cardiac depressor action. He showed, too,

that a first injection of potent exophthalmic serum conferred a tolerance of such a nature that subsequent injections of the same serum during the same experiment produced little or no effect.

The authors have attempted to follow out Gley's researches, injecting intravenously into dogs the serum procured from patients affected with exophthalmic goiter. The effect on blood pressure was recorded graphically on a long paper kymograph in the usual manner using the left carotid artery for the arterial cannula. All injections were made into the right femoral vein. The right vagus was exposed and stimulated by induction shock in certain experiments. Blood was obtained by sterile technique from the median basilic vein of the patients collected in sterile flasks, and the serum allowed to separate in the cold. The manifest difficulty that must always be encountered in such work, i.e. the impracticability of obtaining a large supply of blood from each case has somewhat hindered certain experiments but the authors believe that their results are sufficiently interesting to justify reporting.

The authors used for these experiments the sera from 28 patients having exophthalmic goiter. Other sera examined included those from normal individuals from patients having goiters without apparent intoxication and from patients presenting the picture of a long standing intoxication, presumably due to adenomata of the thyroid. Only the sera from patients with active symptoms of exophthalmic goiter and with markedly hyperplastic glands as shown by microscopical examination produced in the dogs injected any definite symptoms of cardiovascular depression.

The curves produced by the sera from patients affected with exophthalmic goiter have naturally fallen into 3 groups:

1. Those sera causing more than 30 mm. of Hg drop in blood pressure.
2. Those sera causing a drop in blood pressure but less than 30 mm. of Hg.
3. Those sera causing no appreciable drop in blood pressure.

The significance of the following classification was observed after an analysis of the individual cases:

1. Six sera causing drops in blood pressure of more than 30 mm. of Hg. The four curves in Chart 1 all of which produced drops in blood pressure of more than 30 mm. of Hg when injected in doses of 2.5 cc. per kilo dog weight were obtained by injecting sera from patient who were at or near the height of an early and severe intoxication — hyperthyroidism.

2. Ten sera causing drops in blood pressure of less than 30 mm. of Hg. Chart 3 shows the curves resulting from injections of six of these sera which caused a fall in blood pressure of less than 30 mm. of Hg but which apparently contained a slight amount of the depressor agent. Eight of these ten patients had been affected with the disease for more than a year and none of them seemed near a y

marked exacerbation. In general it may be stated that these cases were of longer standing and with more pronounced intoxication than those in the following group.

3 *Teen sera causing no appreciable drop in blood pressure*—None of the patients seemed to be near a crisis and eight of them had been sick less than nine months.

These experiments seem to indicate that patients affected with exophthalmic goiter who are suffering from a marked degree of intoxication at or near the height of the clinical curve of the disease possess serum which has a powerful depressor action. The authors have failed to demonstrate this depressor action by similar means in normal sera or in sera from patients not having markedly hyperplastic thyroids. Also sera from patients with exophthalmic goiter not at or near the crest of the wave of intoxication are less potent or may be entirely inactive.

Since it was not always thought best to bleed very sick patients only a small number of experiments have been made with sera from patients with severe intoxications. Yet it may be of interest to know that most of the patients that were bled experienced considerable relief from their subjective symptoms after the bleeding. The results of intravenous injections, into dogs, of saline extract of 90 goiters of various kinds from human patients have also been reported.

Experiments with extracts of 48 exophthalmic thyroids have shown that the markedly hyperplastic goiters considered typical of Graves' disease have a more powerful depressor action than that of the extract of any normal organ examined including muscle liver spleen pancreas breast testicle thyroid etc. The fall in blood pressure averages 60 mm of Hg and often considerably more whereas that from other tissues in any comparable dosage is usually less than 25 mm.

Extracts of adenomata of the thyroid of simple colloid goiters and of normal thyroids likewise have a depressor action which however has not been found so marked as that produced by extract of exophthalmic thyroiditis. Injections equivalent to as much as 1 gm per kilo dog weight do not cause a fall as great as that of the extracts of exophthalmic goiters in doses of 0.5 gm per kilo dog weight.

The first injection of any extract of fresh gouter as of most extracts of tissue confers a marked degree of tolerance to subsequent injections of the same material during the same experiment.

As is well known, peptone solutions cause a marked fall in blood pressure on intravenous injection, and subsequent injections show that a tolerance has been established similar to that produced by extracts from gutters. The depressor action of peptone solution is not however affected by a previous dose of the extract of exophthalmic gutter nor is the action of the extract of exophthalmic gutter affected by a previous dose of peptone solution. On the other hand it is of interest to note

that the depressor action of the extract of an exophthalmic goiter is much diminished by a previous dose of potent serum from a case of toxic exophthalmic goiter and the reverse judging from a limited number of experiments is equally true. In other words, a crossed tolerance seems to exist between the depressor action of extract of exophthalmic goiter and of exophthalmic serum. It seems probable therefore that the depressor agent in the extract of exophthalmic thyroid and that in the serum from a case of exophthalmic goiter are of the same nature.

No attempt has yet been made to identify the chemical nature of the depressor substances in these extracts of thyroids or of those in sera of patients affected with exophthalmic goiter. From certain experimental evidence it seems that the substance is neither cholin nor ordinary peptone.

The authors believe that the work submitted justifies the following conclusions:

from exophthalmos

3 A powerful depressor substance likewise exists in the sera obtained from certain cases of exophthalmic goiter.

3 The latter substance is present in direct proportion to the clinical acuteness and severity of the

4 The sera from patients with non hyperplastic thyroids do not have a depressor action

After a active depressor dose of the serum from a case of exophthalmic goiter the depressor action of the extract of an exophthalmic goiter is weakened or abolished the converse is also true

Tanberg A Experimental Study of the Physiology of the Parathyroid Glands Especially the Relation to the Thyroid (Experiment II) Utersøgt de fysiologiske Forhold mellem parathyroidea og thyroidea ved Hest. (Ungdoms) halvt års Glandia thyroidea) Af f. m. th. A. T. vidensk. 0.5. v. 1900. By Zeuthen f. d. g. Ch. (C. 1900)

drives to continue

lowed by chronic symptoms such as apathy, indolence and a fall in temperature of from 1 to 1.5° C. Cats deprived of the thyroid may live several months without showing signs of tetany even when they are fed exclusively on meat. Small remnants of thyroid left behind may develop through hypertrophy into very compact tissue which offers some points of resemblance to parathyroids. The parathyroids themselves do not change in structure even when cachexia lasts for several years.

Exclusive meat diet causes a marked hypertrophy

of the thyroid. This does not take place when there is at the same time insufficiency of the parathyroids even though the latter may cause no visible clinical symptoms. If marked hypertrophy already exists as a result of exclusive meat diet it disappears after the extirpation of a sufficiently great number of parathyroids. In chronic tetany the thyroid seems to atrophy in spite of meat diet. The experiments seem to show that the two glandular systems though different in function have a mutual effect upon one another directly or indirectly.

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Baldwin J F: Sarcoma of the Chest Wall. A

Surg. Phila. 1913 July 851

By Surg. Gynec. & Obst.

Hatch uses 5 grain doses of carmin mixed with a teaspoonful of water as a simple harmless reliable and convenient means for the demarcation of stools, the estimation of gastro-intestinal motility and patency for the detection of fistulous communications of the alimentary canal with the exterior and with other hollow organs for the location of the distal end of a duodenal tube and to aid in the differentiation between esophageal diverticulum and dilatation. With the more universal employment of this method no doubt further fields will suggest themselves. Leo Dwyer

Hahn B: Treatment of Acute Pleural Empyema

(Zur Behandlung des akuten Pleurempyems)

Deutsche med. W. 1913 38: 350

By Zentralbl. f. d. ges. Chir. u. f. Grenzgeb.

The author discusses in this work the question of whether the most rational treatment of pleural empyema is radical resection of the ribs or conservative puncture and a purgation of the pus, as described by Hülshausen. Because of his favorable results in 25 cases the author gives the preference to the latter. Rib resection in his opinion has several disadvantages such as a greater operative danger especially from too quick decrease in pressure and post-operative pneumothorax to avoid which a complicated apparatus is necessary.

Hülshausen's drainage offers several advantages including less operative danger and avoidance of post-operative pneumothorax. The emptying out of the pus and the re-expansion of the lung can be furthered in the operation by the use of a suitable suction apparatus.

In the 25 cases treated by the author he followed Schreiber's proposal to connect the Nélaton catheter with a Potain's apparatus. The results were favorable. In 20 of the 25 cases 80 per cent the recovery was complete, 3 patients 72 per cent were not cured and 2 patients 8 per cent died.

The shortest duration of treatment was three

days in a case following pneumonia in a 3 year-old child. The longest time was 55 days the average 25 days. In this connection it should be noted that the treatment was considered closed with the removal of the drain and that two cases were excluded in reckoning the statistics as to the duration of treatment — one a case in which there was an intercurrent scarlet fever and in which recovery took 124 days and one a case that left the hospital without recovery after 50 days and in which the fistula was reported closed four weeks later.

Among the 25 cases there were 9 children aged from 2 to 7 years. The empyema in the majority of the cases followed pneumonia.

In conclusion the author gives a short tabulated résumé of his cases together with some statistics in regard to operative cases of empyema from which it seems that the results in the latter are more unfavorable as to recovery, mortality and average duration of treatment. Hirsch.

TRACHEA AND LUNGS

Gros, J. and Rehfuss, M. E.: Radiography in Pulmonary Gangrene. Med. Rec. 913 1913

1050 By Surg. Gynec. & Obst.

Gros and Rehfuss report a case in which they had autopsy proof. The fluoroscope revealed a central transparent shadow about the size of a silver half-dollar surrounded by an irregular opacity. Clinically when the patient coughed a distinct and markedly blowing sound almost like amphoric breathing but more acute and whistling in character could be heard just outside and above the apex beat. This sound which was heard only during cough, was distinctly gurgling and confined to one spot. Examination of the putum revealed bloody mucopurulent sputum, no tubercle bacilli, many gram-positive diplococci and streptococci. The autopsy revealed a large infiltrating gangrenous cavity which was found to communicate with the bronchus. There were two other irregular cavities which had passed unseen in the midst of the hepatized lung. Radiographs showed not only the cavity and infiltrated tissue seen on the screen but also traced

an exact shadow of the cavities or multiple gangrenous foci seen at autopsy

The authors believe that this case demonstrates the value of radioscopy in accurately locating and

showing the early infiltration and cavity formation and the value of the radiograph in demonstrating the multiple foci of pulmonary gangrene which could not be perceived by radioscopy examination.

EDW. H. SKINNER

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Pann tt D A The Selection of the Incision in Coliotomy J Soc Roy Soc Med 9 3 11 Surg Sect 1 By Surg Gynec & Obst

The prevention of bad after effects of opening the abdominal cavity can only be accomplished if the following precautions are taken (1) No nerves must be permanently damaged and (2) wounds in the muscle and aponeurosis must unite by firm narrow scars which are so situated that they are not subjected to undue cross tension which will result in their stretching. That these requirements are not filled by the ordinary incision is shown by the author following an examination of a number of cases.

Incision in the linea alba is very commonly followed by stretching of the scar and separation of the two recti when the wound has been made below the umbilicus. An incision splitting the rectus fibers is often followed by paralysis of the part of the rectus which lies medial to the incision. Incision in the linea semilunaris is often followed by extensive paralysis of the rectus. Lateral rectus sheath incision where the rectus is pulled mesally is also complicated according to the author by many subsequent paralyses of the rectus. McBurney's incision oblique lumbar incision and vertical incision lateral to the line semilunaris all are complicated by more or less paralysis of the muscles supplied by the nerves severed by the incision.

The explanation of the foregoing observations is said to lie in the anatomical relation of the nerve supply to the different muscles affected and also in the fact that poor healing takes place where the blood supply is inferior as for example in the linea semilunaris. The nerves supplying the rectus come from the sixth to the twelfth dorsal and these nerves run obliquely though the outer part of the rectus sheath into the rectus muscle.

The incisions which the author recommends are the following: (1) Wherever possible a paramedian incision should be employed made through the anterior sheath of the rectus near the median line. The rectus with its nerves be pulled outward and the incision completed through the posterior sheath of the rectus. (2) Kocher's incision for reaching the gall bladder is recommended. This incision is placed in two ways. One way is to make an incision parallel to the costal margin retracting the nerves out of the way. The second method is to make a long medial incision with a transverse incision extending outward from the lower end of the medial one.

J. H. SARGES

Reich Ideler L. H.: Postural Treatment of Post Operative Abdominal Adhesions Surg Gynec & Obst 1913 xvi 755

By Surg Gynec & Obst

The author proposes a method of treating recent post operative abdominal adhesions which so far as he knows is original. It is based upon his belief that in certain cases these adhesions will re-form even after repeated careful operations with or without the use of salt solution sterile oil cargile membrane or other method of treatment. Most of the disabling pain which these cases suffer while standing is due to constant pulling on the sensitive parietal peritoneum. The author assuming the impossibility of always obtaining an anatomical cure endeavors to secure relief by having the adhesions re-form in such a position as to obviate the peritoneal traction with its resulting discomfort.

To this end he advises breaking up all adhesions as thoroughly as possible paying especial attention to the parietal peritoneum. The abdomen is filled with salt solution closed carefully with both tier and stay sutures, and a snug binder applied. Within a few hours after reaction the patient is placed in a sitting position and kept there constantly, being allowed to sit up in a chair in a couple of days and encouraged to walk about as much as possible, so that the abdominal contents will adjust themselves at the lowest possible level while adhesions are re-forming thus minimizing subsequent peritoneal tension while the body is erect. The salt solution will tend to keep the raw surfaces apart until the patient can be placed in the upright position.

The author cites the case of a woman who for three years was in hospital for periods aggregating 150 days and underwent six operations for abdominal pain due to adhesions and who was completely relieved by the method described.

Clogg, H. S. Inguinal Hernia in the Child. C. J. 9 3 xlv 465

By Surg Gynec & Obst

Inguinal hernia in the child the author believes is always dependent upon a developmental error the sac of the hernia being the processus vaginalis in whole or part. The hernia descends the whole length of the canal and is therefore of the oblique or indirect variety. The failure of this processus vaginalis to undergo normal development accounts for all inguinal hernias in childhood. He believes that weakness of the abdominal muscles and some increased intra abdominal pressure have very little to do with inguinal hernia in children.

In the male two types of hernia are recognized (1) The sac is the complete processus vaginalis—the complete sac—and extends to the bottom of the scrotum having the testicle project into it posteriorly (2) The lower part of the processus vaginalis has become separated—the upper part only remaining in communication with the peritoneum—the incomplete sac. The size of the incomplete sac will vary considerably depending on the site at which it has been naturally obliterated.

The diagnosis is considered from two stand points (1) The history of a swelling which has been seen and has disappeared and cannot be seen when the child is brought for examination and (2) a swelling which is present. In regard to the former glands appearing suddenly hydroceles, excessive pubic fat and a movable testicle must be differentiated. In regard to the latter it is easy to determine that the swelling comes from the abdomen by being unable to detect the cord free from the swelling.

The author considers the treatment under two headings Truss and operative. The only value in the truss is in restraining the descent of the hernia, thus allowing nature to proceed with normal development. A truss may act indirectly in the cure of a hernia. During the first few months the author advises a truss solely with the object of restraining the hernia. This treatment he continues to about the fourth or sixth month if a child is under observation after the fourth or sixth month of life and is healthy operation is advised. In special circumstances e.g. a large hernia which cannot be controlled by a truss or a hernia which is frequently coming down and causing difficulty in reduction operation will have to be undertaken at an earlier age.

The cecum is frequently herniated in children and must be treated carefully. Appendicitis in the hernial sac occurs in children—about 25 per cent of the cases reported being found in children. Rarely the pelvic colon escapes through the ring on the left side although the bladder also may occupy the hernial sac. The treatment consists in carefully separating the portion of the bladder and allowing it to return into the abdomen. The ovary and tube are frequent contents of the hernial sac in the child. The treatment consists in carefully separating the organs and replacing them. Torsion of the pedicle may be a complication and in some cases removal of the ovary is necessary. Strangulation requires immediate operation and the complications arising should be carefully treated.

WALTER F. WENHOLT

Ochsner A. J. The Treatment of Hernia in Children. *Illnesses of J.* 9:3 221, 1933. By Surg. Gynec. & Obst.

The conclusions reached in this paper were developed as a result of observations first made upon children who had strangulated hernia which had been reduced without operation, permanent spontaneous cures resulting by simply keeping the children

in bed with the foot of the bed elevated for a short time, at the same time overcoming the abnormal abdominal pressure by careful dieting and medication. Children having hernia who were circumcised for phimosis were observed to undergo spontaneous cure of their hernia also while resting under medical care.

A study of statistics in the literature shows that hernia in children are much less frequently found between the ages of six and thirteen and that if no new hernia were formed between the ages of six and thirteen 73 per cent of all hernia in children at six years of age would have healed spontaneously by the age of thirteen.

The causes of hernia in children are (1) Non closure of the inguinal canal (2) congenital separation or weakness of structures surrounding the inguinal femoral or umbilical opening—frequently hereditary (3) abnormal length of mesentery and omentum (4) abnormal intra abdominal pressure due to (a) faulty nutrition, (b) to constipation (c) to phimosis (d) to coughing (e) to vomiting, (f) to crying and straining (g) to traumatism and (h) to over exertion.

About 5 per cent of cases should be operated upon the indications are (a) strangulated hernia (b) irreducible hernia due to adhesions (c) an unusually large opening in a free hernia especially if the condition is hereditary (d) reducible hydrocele (e) undescended testicles unless there is a tendency toward spontaneous cure. The remaining 95 per cent will heal if the exciting cause has been removed.

The recumbent position with the foot of the bed elevated is a great aid in the after treatment of operative cases as well as in the management of them without operation.

The truss treatment is a valuable aid and is to be used in conjunction with attempts to relieve the abnormal intra abdominal pressure by dieting, relief of constipation, phimosis etc. When the child cannot be kept in bed a well fitting truss should be worn night and day for at least six months, or until there is no protrusion of hernia.

FLOYD B. RILEY

GASTRO INTESTINAL TRACT

Rosenow E. C. The Production of Ulcer of the Stomach by Injection of Streptococci. *J. Am. M. Assn.* 9:3 121, 1947. By Surg. Gynec. & Obst.

Hemorrhages, superficial erosions, and definite ulceration of the mucous membrane of the stomach and duodenum occur not infrequently during severe infections in man and in experimentally infected or otherwise severely intoxicated animals. In some of these instances there can be no question but that infection plays a rôle in the etiology of ulcer.

The author has produced ulcer of the stomach or duodenum or both by intraveous injection of certain streptococci in eighteen rabbits, six dogs, and one monkey. He found that streptococci of marked virulence or streptococci of very low viru-

lence both failed to produce ulceration while a streptococcus of moderate activity seemed to produce ulceration most frequently. He believes that the ulceration is due to a localized infection and secondary digestion. The ulcers are usually single and deep with marked tendency to hemorrhage and perforation and resemble the human gastric ulcer in many respects.

The streptococci which produced the lesions were originally obtained from human tonsils. From the similarity of the lesions produced to those which occur in man from the fact that ulceration takes place in the absence of a generalized infection and from the origin of the streptococcus in question it seems reasonable to suppose that ulcer of the stomach and duodenum arises from an infectious process.

J. H. SKILES

Carman R. D.: The Röntgen Ray as an Aid in the Diagnosis of Gastric Cancer and Ulcer. *J. Indiana St. M. Ass.* 9:3 1914, 485.

By Surg. Gynec. & Obst.

The author quotes from a recent paper by W. J. Mayo in which it was stated that the signs and symptoms of gastric cancer could be arranged in the following order with respect to value: (1) The presence of a palpable tumor in 67 per cent; (2) food remnants in 53 per cent; and (3) the roentgen ray signs.

Carman states that the work of the last few months at the Mayo Clinic has necessitated a change in the order of importance of these signs, the X-ray now taking first place with diagnostic signs of cancer in 93 per cent of the cases.

In gastric ulcer the radiological diagnosis is somewhat less certain but even here approximately 65 per cent show diagnostic signs and this percentage will probably be materially increased in the future.

The technique employed is the double meal method of Haudel, both fluoroscopy and radiography being used.

The radiological signs of carcinoma of the stomach he arranges in the order of their relative value as follows:

- 1 Filling defects
- 2 Altered pyloric function
 - (a) Gaps of the pylorus
 - (b) Obstruction of the pylorus
- 3 Altered position of the six hour meal
- 4 Absence of peristalsis from involved areas of the wall of the stomach
- 5 Diminished mobility, loss of flexibility
- 6 Diminution in size of the stomach
- 7 Antiperistalsis

The filling defect, a sign of cardinal import and practically indispensable in the roentgen ray diagnosis of carcinoma, is occasioned by the projection of the tumor mass into the lumen of the stomach. True filling defects must be carefully differentiated from indentations of the wall of the stomach by a gas filled colon by adjacent extrinsic tumors and by palpation during the

screen examination assists materially in determining the actuality and permanence of filling defects. Alteration of pyloric function is an almost invariable accompaniment of gastric cancer either free and continuous patency or obstruction. Loss of flexibility of the stomach by infiltration of its walls is important. Antiperistalsis is sometimes seen in association with pyloric obstruction.

The radiological signs of gastric ulcer may be classified in two groups: (1) Those which are cardinal and more or less pathognomonic; (2) those which are merely suggestive.

The cardinal signs are as follows:

- 1 Visualization of the bismuth filled crater of a callous ulcer — the nischen symptom
- 2 The diverticulum of perforating ulcer
- 3 The incisura

Signs which are not determinative but merely suggestive of ulcer include:

- 1 Acute fishhook form of the stomach with displacement to the left and down
- 2 Delayed opening of the pylorus
- 3 Localized pressure-tender point on the lesser curvature
- 4 Residue in the stomach after six hours
- 5 Lessened mobility
- 6 Settling of the bismuth to the lower pole of the stomach such as is seen in hypotonicity or atony.

A bud like projection from the contour of the bismuth filled stomach corresponding to the crater of a callous ulcer is a definite and valuable sign not imitated at least closely by any other condition. The diverticulum of perforating ulcer is quite as characteristic. The perforation may be anterior into the liver or posterior into the pancreas and a continuation of the ulcerative process results in an excavation which when filled with bismuth often shows a walnut sized more or less spherical outline with a layer of bismuth surmounted by a layer of fluid and capped by an air bubble. The incisura is an indentation of the greater curvature usually in the vertical part of the stomach of varying width and depth. An incisura must be differentiated from a peristaltic wave and from transient reflex spasms.

In conclusion Carman states that the roentgen ray simply furnishes valuable contributory evidence as to the presence and nature of gastric lesions — so valuable that whenever available it should be employed in the general routine — but the final judgment should take into account all the evidence of every sort. Hence the radiologist should be not only a radiographer but a clinician to the utmost of his ability able to follow his cases to the operating table and take his rightful share of responsibility.

ALBERT MILLER

Stockert C. G.: Pyloric Spasm. *Canadian M. Ass. J.* 9:3 1913.

By Surg. Gynec. & Obst.

The cause of pyloric spasm is an over-spasticity of the sphincter muscle either inherent in the muscle itself or communicated to it through its nerve

supply A high degree of hydrochloric acid may so prolong the duodenal reflex which closes the pylorus as to produce a resultant spasm. It is evident that when duodenal ulcer or cancer or duodenitis is present the pyloric spasm will be much more marked owing to the increased irritability of the affected parts to the hydrochloric acid. But there are other causes of pyloric spasm. The author has seen it occur in cases of stone in the bladder, uterine retrodisplacement and in nephritis. It may occur in eye strain, psychasthenia and in nervous shock.

The symptoms vary greatly in intensity, gaseous or acid eructations being the most common symptoms. Often there is a burning pain or feeling of distress in the epigastrium. The hunger pain, so frequently associated with ulcer, is attributed by the author to a spasm of the pylorus. There may be a definite mass palpable.

The treatment of pyloric spasm should be directed at the causative factors. This may mean some operative interference, e.g., an appendix or gall bladder operation. The relief of the pyloric spasm can often be accomplished through the administration of alkalies with possibly the addition of a sedative. J. H. SKILES

Einhorn M.: Further Experiences with Stretching the Pylorus. *Am J M Sc* 913 Oct 1: 837.
By Surg. Gynec. & Obst.

The author briefly reviews the old cases showing that the pylorus can be stretched by way of the mouth and reports twenty one new cases. Among them 8 had a real stenosis and 13 had pylorospasm of varying severity. No mishap occurred and the results as a whole were very good. The pains subsided and the ichthyism or hypersecretion if present decreased or disappeared.

The differentiation between benign stenosis and pylorospasm is best made by measuring the pylorus in pylorospasm No. 50 to 60 l. can be passed through the pylorus while in real stenosis No. 40 is about the largest that can be passed. Indications for stretching the pylorus are: (1) All cases of spasm provided there is no fresh ulcer in the immediate vicinity. (2) Benign stenosis may be stretched also with the same exceptions as given above. (3) Advanced benign structures which cannot be operated either on account of some great underlying danger or when the patient refuses operation. The author's method of stretching is not antagonistic to surgery but works hand in hand with it. H. A. PORTS

Zweifel: Intestinal Fistulae and Their Treatment (Über Darmfisteln und ihre Behandlung). *Zentralbl f Ch* 26 9: 3 xxvii, 403.
By Zentralbl f d ges Gynäk u Geburtsh u d Grenzgeb.

After opening an abscess following appendicitis an intestinal fistula appeared and as it did not close spontaneously it was operated on in two stages as follows:

1. Median laparotomy and lateral entero-anastomosis was done between the last coil of the ileum and the transverse colon. The part of the intestine thus excluded with the vermiform appendix and the ascending colon was closed and as far as possible invaginated.

2. After the patient had recovered an incision was made around the fistula, the excluded part of the intestine was separated step by step from the mesocolon and extirpated *in toto*. The patient recovered but foul smelling pus was still discharged.

R. KEMAN

Turck R. G.: Intestinal Resection Successful Removal of More Than Two Feet of Bowel with Observations on the Subsequent Metabolism. *Tr Sth Surg & Gynec* 41st Atlanta, 9: 3 Dec.
By Surg. Gynec. & Obst.

Turck reports the successful removal of ten feet and ten and a three quarters inches of ileum together with the caecum, ascending colon and part of the transverse colon because of dense adhesions, numerous partial obstructions, fecal fistulae and multiple sinuses. The work which was done in three stages was followed by serious metabolic disturbances and diarrhoea.

Studies of the metabolic processes eight months after the ileum resection showed that a probable compensatory hyperplasia of intestine with consequent compensatory production of enterokinase had taken place enough with a regulated diet, to thoroughly digest and assimilate carbohydrates and a moderate amount of fats, but not enough to fully care for proteins.

A measured diet adjusted according to caloric values and thorough metabolic examination of feces controlled the diarrhoea and caused a decided gain in strength and weight—medication had no effect upon the diarrhoea.

Turck believes that since the small intestine varies from 15 to 25 feet in length no absolute rule can be laid down as to the amount of gut that may be removed with safety and that reports of extensive resections are of no especial scientific value unless there can be shown in that particular individual the total length of intestine.

Short circuiting when possible is preferable to resection particularly if the absorption area in the ileum be involved, and in cases of necessary extensive resection it is suggested that Fantino's plan of creating a vicious circle in the remaining segment of gut be tried.

Case J. T.: X Ray in the Diagnosis of Carcinoma of the Colon. *Istis M J* 913 xx 3.
By Surg. Gynec. & Obst.

The author emphasizes the necessity for early diagnosis in carcinoma of the colon and as this condition is comparatively rare it is consequently seen but seldom in routine examination of the colon, and the greatest care should be exercised in all examinations.

of the gastro-intestinal tract that as few diagnostical errors of omission as possible shall be made.

The roentgen findings in carcinoma of the bowel are as follows:

1 Delay in the progress of a bismuth meal given by mouth varying from 48 hours to several days.

2 Arrest in the progress of bismuth clyma the obstruction may be complete or may be overcome in a greater or less period according to the degree of the stenosis. Haensch's technique for bismuth enteroclysis should be followed literally. It must be shown that incomplete filling on the far side of the obstruction is not due to insufficient pressure of the bismuth column or the presence of dried faecal masses.

3 Dilatation of the colon on the proximal side of the lesion which is evidence of serious obstruction when present. The colon may end at obstruction in a funnel shaped process or there may be irregular filling defects characteristic of cauliflower carcinoma.

4 There may be a palpable tumor coinciding with the filling defect, but its absence is unimportant especially in very early cases. Faecal accumulations are apt to be present on the proximal side of the obstruction and must not be confused with real tumors.

5 The author believes exaggerated antiperistalsis to be a valuable sign in the diagnosis of serious obstruction. However normal antiperistalsis which is the prevailing movement in the cecum ascending and right half of the transverse colon must not be mistaken for exaggerated antiperistalsis. Laxatives before examination increase antiperistalsis and the character of obstruction malignant or benign organic or pasty cannot be determined by this phenomenon.

In the author's technique ordinary bismuth or barium meals are used. If the latter is used the barium sulphate must be known to be chemically pure meal by mouth and enteroclysis should both be used. Careful cleansing enemas should be given before examination. A roentgenoscopic table of the Haensch type is essential for colon work. The author calls attention to the necessity of adequate protection around the tube to adjustable lead diaphragms and to the proper preparation of the eyes before a fluoroscopic examination. The patient is placed supine an ordinary rectal tube is introduced past the spincter the container is elevated 2 ft and the clyma allowed to flow. The cecum should fill in 3 or 4 minutes if no obstruction is present. The progress of the clyma is watched as it ascends the colon and if any abnormalities are found the examination should be repeated at a later date and findings verified. W. W. GUNZ.

Norbury L. E. C. Imperforate Conditions of the Rectum and Anal Canal and their Treatment
Practitioner London 93 xi 834

By Surg. Gynec. & Obst.

The normal development of the rectum and anus is considered in text and diagram relative to those

embryological defects which give rise to imperforate conditions. The surgical relief of these conditions is discussed.

The rectum is originally derived from the hind gut and opens into a common sinus with the urogenital tract. From this tract it soon becomes separated by two lateral partitions which coalesce to form the upper portion of the perineal body. If this septum be completely absent or misplaced the rectum opens into the bladder or if deficient the rectum opens into the deep urethra or by sinus into the perineum or in the female into the vagina. This segment known as the postallantoic segment prolongs downward and meets the anal canal which is infolding from the proctodeum. Failure in development of the postallantoic segment is the most common of all imperforate defects.

Non absorption of the partition or cloacal membrane between this segment and the anal canal results in a less serious defect namely imperforate anus. Defects in the formation of the anal canal are rare. When the postallantoic segment fails to develop, the rectum usually ends in a blind pouch at about the level of the prostate or cervix uteri. This pouch is usually invested with peritoneum except over the posterior surface.

Treatment must be promptly instituted. For mere stenosis the tract is dilated daily by bougie or finger during the first year of life. When only a septum separates the anal from the rectal canal this is to be crucially incised. First however the surgeon must be convinced by the bulging into the anal canal of a thin convex bluish septum that the defect is failure of absorption in the cloacal septum and not one of absence of the postallantoic segment of rectum. If the anal canal ends in a pucker it is more probable that the postallantoic portion is deficient and that attempt to puncture or incise the blind end of the rectum will open into the peritoneal cavity. When in doubt or with definite absence of the postallantoic segment the posterior wall of the anal canal is incised to the tip of the coccyx and the rectum is sought in the hollow of the sacrum. The posterior surface is identified and the rectum stripped free of the peritoneum which sometimes invests the entire pouched end. The blind end is then sewn to the anal opening incised and held open by tube and later by daily dilatation.

When the rectum cannot be found low medium colostomy is done as an emergency measure and the establishment of the normal path is postponed until the second half year of life. When fistula into the urethra or the vagina or onto the perineum exists these tracts may close spontaneously after the normal passage for feces has been established. Fistula into the bladder must be treated by a permanent colostomy dividing the bowel and invaginating the lower end however this is an operation of doubtful utility.

With the exception of that defect where the rectum opens within the vulva of the female the prognosis is bad. Recurrent stenosis is common the economy

of the fetus is unfavorably affected before birth the operative procedure is severe and late hypertrophy and dilatation of the bowel commonly follows

KARL COV. 112.

Martin C. F.: The Anorectal Line Its Clinical Significance *P. ootologist* 1913 11 316

By Surg. Gynec. & Obst.

Martin brings out the importance of the anatomical division of the lower bowel by the anorectal line into an upper portion which is developed from the embryological ectoderm and a lower portion which is ectodermic in origin. Along with these embryological distinctions are associated differences in blood and nerve supply with consequent influence on the pathological conditions of the two parts. Thus above the anorectal line the superior hemorrhoidal veins begin and these empty into the inferior mesenteric vein which carries the blood to the portal circulation. Below this line the blood is carried via the middle and inferior hemorrhoidal to the inferior vena cava. Again above the anorectal line the rectum is supplied by visceral or sympathetic nerve fibers while below it the parts are supplied by spinal nerves. The lymphatics from the bowel above the line drain upward into the pelvis, while those below the line pass to the inguinal glands.

From a clinical standpoint these anatomical differences have an important bearing upon the symptoms and course of disease. Infection and malignant disease occurring above the anorectal line tend to spread upward by way of the deep lymphatics to the pelvic or urogenital organs or to the liver via the portal circulation. Owing to the sympathetic nerve supply lesions of this part are not so apt to be painful but are rather associated with a sense of discomfort. Lesions below the anorectal line are usually accompanied by pain while metastasis from infections and malignant disease usually affects the inguinal gland.

ROBERT H. IVY

LIVER, PANCREAS, AND SPLEEN

Stockton C. G.: Condition of the Upper Region of the Abdomen in Relation to Disease of the Gall Bladder *Boston M. & S. J.* 1913 61: 86

B. Surg. Gynec. & Obst.

The author states that there are four main causes for obscurity in diagnosis of conditions of the upper region of the abdomen. First the development and persistence of symptoms referable to an organ as the result of disease in another, usually but not necessarily contiguous part. This phenomenon may be due to obstruction at the site of disease which interferes with the function of some related part or it may be due to a nervous action which refers the trouble to some part other than the diseased or finally it may be due to secondary infections or metastases giving rise to local symptoms of such importance that the primary disease is overlooked. Many instances could be cited where

symptoms referable to one part really arise from disease in another. A duodenal ulcer may involve the bile papilla and thus occasion jaundice, pyloric spasm and its accompanying symptoms may be due to infection of the gall bladder malignant endocarditis in its symptomatology may closely parallel that of an infected gall bladder. Often there is the absence of the more distinctive features of endocarditis the liver is enlarged and there is tenderness and muscle spasm over the gall bladder with fever and leucocytosis. These symptoms may lead to an unnecessary drainage of the gall bladder.

The second main cause of mis taken diagnoses is the presence of comparatively trivial local disease accompanied by severe and misleading symptoms. In connection with the gall bladder region there may be characteristic signs and symptoms of chronic or even acute cholecystitis muscle spasm tenderness, hepatic dullness leucocytosis besides severe pain, vomiting sour stomach and other expressions of pyloric spasm collectively of sufficient importance to warrant operation and drainage yet upon examining the exposed gall bladder it will be found normal in appearance and to have normal contents. On the other hand there may be marked local disease with a very trivial symptomatology.

The third main cause is the presence of two diseases appendicitis and cholecystitis are often associated and duodenal or gastric ulcer may be associated with one or the other. Not a few cases are operated upon a chronically inflamed appendix removed and yet the symptom persists due to the presence of a pathological lesion elsewhere.

The fourth cause is the small degree of importance which is ordinarily attributed to the influence of diathesis and metabolism. The author believes that poor metabolism is responsible for more of the ills of mankind than is usually suspected. Many cases of gall bladder disease improve under good diet massage and free elimination. Recently Loeper of Paris has demonstrated that oxaluria depends upon oxalemia and that oxalemia is demonstrable by blood examinations. He further states that oxalemia alone produces symptoms which might well be ascribed to an infection of the appendix or gall bladder or to a peptic ulcer. J. H. SAUNDERS.

Decker J. B.: Cholecystectomy *S. & G. Surg. & Obst.* 9 3 667 B. Surg. Gynec. & Obst.

In certain well-defined conditions there is practical unanimity concerning the advisability of removing the gall bladder. These conditions are

1. Drops with obliteration of the cystic duct.
2. Chronic empyema.
3. Calcareous degeneration.
4. The cholelithic gall bladder of Moynihan.
5. Gangrene.
6. Carcinoma limited to the gall bladder.
7. Extensive ulceration or perforation of the gall bladder.

These conditions possess in common two undesirable features (1) The impossibility of resist-

ad integ um and (2) the certainty or probability of the progress of the disease

There are exceptions however even to the above rules. The author has, on more than one occasion been content simply to drain a gangrenous gall bladder and the patients have recovered without the necessity for a second operation

The operation of cholecystostomy is the classical operation for gall bladder cholelithiasis but it has been almost discarded of late years owing to the appreciation of the need for drainage in clearing the gall bladder and biliary passages of infection of which calculi themselves are but a result. Granting the applicability of simple cholecystostomy in cases properly selected it is nevertheless true from a practical standpoint that the surgeon will very seldom be able to select such cases and as a rule some operation involving either drainage or removal of the gall bladder must be employed if the greatest good to the greatest number is considered

Pancreatic and peripancreatic inflammation when associated with gall bladder disease should influence our treatment of the gall bladder itself. Infection is carried from an inflamed gall bladder to the peripancreatic tissues and it is believed in a percentage of cases the pancreas may be secondarily infected in this manner. For some time the author has been observing the peripancreatic lymph nodes in the course of his upper abdominal explorations and has found them almost invariably enlarged in gall bladder infections. When in his opinion such a condition is present and the gall bladder presents such serious alterations as to make the question of cure by cholecystostomy problematical he does not hesitate to perform cholecystectomy. He is not advocating cholecystectomy in all cases of peripancreatic or pancreatic inflammations not all cases arise in this manner. When the pancreas appears markedly or chiefly affected he hesitates to remove the gall bladder because of the possibility that it may be needed at a later period owing to the progression of the pancreatic lesion and obstruction of the common duct thereby.

The author's experience with the operations of cholecystostomy and cholecystectomy inclines him to be rather more radical than hitherto but he counsels the inexperienced surgeon to cling to cholecystostomy. As a rule the stronger the indications for cholecystectomy the greater the operative difficulty.

Wade H N. Primary Hodgkin Disease of the Spleen. Dorothy Reed Type. *J Med Research* 9 3 1919 209. By Surg Gynec & Obst

In contradistinction to the usual manner in which Hodgkin's disease presents itself—that is by primarily involving the glands of the neck or more rarely those of the mediastinum or retroperitoneum—the author here reports a rare form of the condition which is primarily in the spleen. Previous to the case which the author here reports he believes that only one true case of Hodgkin's disease of the

Reed type which was primary in the spleen has been reported in the literature. This case reported by Symmers occurred in a young unmarried female who had noticed an abdominal mass for some three years previous to the examination. The spleen was removed and found to have undergone the cellular changes characteristic of Hodgkin's disease.

The case Wade presents was that of a farmer 55 years of age who presented a mass in the region of the spleen which was felt fully three and one-half inches below the costal border. The blood examination showed hæmoglobin 70 per cent erythrocytes 3 260 000 and white cells 12 600. The spleen was removed and the patient lived for two years thereafter. A microscopical section of the spleen showed the condition to be typical Hodgkin's disease of the Dorothy Reed type. The author believes that while primary Hodgkin's disease of the spleen is undoubtedly a rarity it occurs more frequently than a search of the literature would indicate. He believes that many of the cases reported as primary sarcoma of the spleen may have been examples of this condition.

From a study of this article the author's views may be summed up as follows:

Primary Hodgkin's disease of the spleen is a condition quite unique but that it occurs no more frequently than has been held is doubtful since some of the reported cases of primary splenic sarcoma may easily have been unrecognized cases of Hodgkin's disease.

In view of our ignorance of the etiology of the condition and of the fact that the process occasionally arises in other deep seated lymphadenoid tissues the possibility of a splenic origin cannot be denied.

Since in the present case there was at no time any enlargement of the superficial lymph glands nor was there evidence of any lymphatic hyperplasia within the mediastinum or abdominal cavity and since the disease was of long standing in the spleen as evidenced by the gross and histopathological appearance it should be considered a case of primary Hodgkin's disease of the spleen.

GEORGE F. BRITBY

MISCELLANEOUS

Müllerheim R.: Diagnostik Difficulties in Abdominal Tumors (Diagnostisch Schwierigkeiten bei Abdominaltumoren). *Zisch f Geburtsh Gynäk* 9 3 1919 78.
By Zentralblatt f ges Gynäk u Geburtsh s d Grenzgeb

The diagnosis of abdominal tumors forms a difficult chapter in medicine because for a correct interpretation the general condition of the patient the functional examination of the organ involved and the local symptoms of the tumor must be considered. But the local symptoms may be so masked by the hidden situation of the tumor in the abdomen and its involvement of neighboring organs that the most careful examination still leaves the case in

doubt exploratory laparotomy must then be used as a last resort

To illustrate these difficulties in differential diagnosis which occurred in his own practice the author gives 7 rare cases as follows (1) A cyst of the urachus (2) a congenital abnormal location of the bladder at the umbilicus (3) a sarcoma of the retroperitoneal lymph glands (4) a case of dystopia of the kidney (5) a simultaneous intra uterine and extra uterine pregnancy (6) a phantom pregnancy with tympanitic meteorism and (7) a caecum mobile

WASA

Bassler, A. Some Recent Conclusions on Abdominal Röntgen Ray Work. *J Am M Ass* 913
12, 2217 By Surg. Gynec. & Obst.

Bassler finds that plugging the cardia to retain the bismuth in the oesophagus and then making stereoscopic plates with the patient in the standing position is the best means of diagnosing new growth of the oesophagus before marked stenosis exists. Another method is to give bismuth in 25 gm quantities suspended in two ounces of syrup of acacia. He believes that the method of examination by food extraction of the stomach contents is more dependable in gaining an idea of exit from the stomach than is the bismuth X-ray method. He believes that a rectal injection of bismuth to outline the colon given at the same time that observa-

tions are being made upon the emptying rate of the stomach influenced the retention of bismuth in the stomach to a certain degree. He says that carcinoma of the stomach was best diagnosed by the X-ray method for by it four cases were diagnosed early enough for complete excision and expectation of a cure. In none of these were the history test meal, or other laboratory methods of so much value. In the late cases of carcinoma either or any combination of methods sufficed.

Adhesions of the colon were best diagnosed by the X-ray method there being no laboratory findings to take its place. He is not ready to place much dependence upon the value of the X-ray in the estimation of gall bladder adhesions, cholecystitis, cholelithiasis, duodenal ulceration or chronic appendicitis. In only nine of the 167 cases in which Lane kinks were noticed could they be proved to be factors in causing delay at their site or above it in the stomach where they had operative proof. Four cases of renal stone were encountered in which the renal calculus was not suspected from the history. In their cases of ureteral stone all of them showed the stoppage of the transit of the stone at the brim of the pelvis or much short of the bladder. In one case in which they interpreted a calculus in the pancreatic duct the operation proved the shadow to be a calcified gland outside of and near the head of the pancreas. EDW H. SEEVER.

SURGERY OF THE EXTREMITIES

DISEASES OF THE BONES, JOINTS, MUSCLES TENDONS. CONDITIONS COMMONLY FOUND IN THE EXTREMITIES

Moore J. E., and Corbett J. F. Studies on the Function of the Periosteum. *T N Stern S 12*
12, St. Louis, 913 Dec. By Surg. Gynec. & Obst.

The authors have made a study of bone growth both in man and through experiments in animals. The conclusions from these studies are (1) Bones from which a portion of the shaft has been removed heal in the presence of irritation by a subperiosteal bridge of bone (2) Cutting the nutrient artery prevents the formation of a subperiosteal bridge (3) As the nutrient artery supplies medullary bone and as the periosteum is left intact when the artery is cut it may be assumed that the medullary bone is responsible for the subperiosteal bridge.

The subperiosteal bridge may fill in gaps left in the periosteum therefore the periosteum is not absolutely dependent upon that structure even as a place of refuge. The subperiosteal bridge is more marked where it receives osteoblasts from two sources than from one. Fascia is a substitute for periosteum.

In heterotopic transplants no subperiosteal bone could be produced by irritation. This is somewhat surprising in that the heterotopic experiments were conducted upon rabbits. We know that old scars

in these animals frequently contain true bone and that the periosteal device of Schepellmann begot true bone in the peritoneal cavity.

At the present day the periosteum is disregarded, and the modern surgeon may be comparatively indifferent to it when operating upon bone. If it is convenient he preserves it because the conservation of tissues is always good surgery but if not he does not hesitate to sacrifice it.

Hosmer A. J. Our Present Knowledge of Bone, with Reference to Infection and the Use of Bone as a Transplant. *Northwest Med*, 1913,
39 By Surg. Gynec. & Obst.

The author reviews the work of Macewen and states that the osteoblasts are contained in the hard cortical substance of the bone and that the periosteum acts simply as a lining membrane the internal layer of which is loose and well supplied with circulation giving thereby a favorable ground for the proliferation of osteoblasts when they are thrown out from the cortical substance of the bone.

He also calls attention to the works of Cotton and Loder in which they call attention to the fact that the endosteum probably plays a large part in the regeneration of bone.

The author passes hastily over the regeneration of bone as shown in fractures, still holding to the

theory that the osteoblasts come from the cortical substance. He then satirizes the attitude of the physician who finds a patient with pain in the bone and without making a thorough examination assumes that it is rheumatism and advises local applications and opiates and allows the infection of bone to progress until there has been considerable destruction and the patient is toxicemic. He emphasizes the fact that many of our present cripples are due to the negligence of some doctor who did not recognize the heavy bursting boring pain which accompanies infection under pressure as an osteomyelitis and allowed the destruction of bone to go on until the patient was permanently crippled.

In his treatment the author calls attention to the necessity of immediate operation giving free drainage to every infection of the bone whether it is periosteitis or an osteomyelitis. He quotes Albee's saying that many liberties may be taken with a bone graft without interfering with its success and disagrees with him stating that absolute cleanliness and asepsis must be observed at all times in handling bone graft and that bone is the easiest tissue in the body to transplant providing the bone is taken from the same body. He calls attention to the fact that foreign bodies such as nails or screws loosen up when inserted into bone and urges the use of live bone transplant or intra medullary splint as the best means of holding ununited fractures. P. B. MAGUIROV

Fund II. Our Experience with Röntgen Treatment of Surgical Tuberculosis (Unsere Erfahrungen mit der Röntgenbehandlung chirurgischer Tuberkulosen). Beitr. kl. Ch. 93, 1920, 208.
By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Within the last two years 71 cases of tuberculosis were treated at the Garre Clinic by Iselin's method of roentgenization but the good results described by Iselin were not obtained in spite of the fact that the treatment was carried out just as described by him in the Basel Institute and although with only a few exceptions mild cases were selected. The author concludes that as a consequence of the good results reported by Iselin experiments have no doubt been carried out in various places but the fact that only a few cases have been published seems to him to indicate that at other clinics the results must not have been very brilliant. He cannot account for this difference in the results, but thinks that perhaps tuberculosis shows different degrees of malignancy in different locations. Of all the forms of tuberculosis treated lymphoma was the one most favorably influenced little or no reaction was seen in bone and joint tuberculosis. In many cases there was a decided change for the worse there was proliferation of the granulation tissue in cases of fungus which has never been reported before. The author thinks it desirable for the sake of clearing up the question of other hospital where the roentgen treatment of tuberculosis has been tried to report their results.

K. OKE

Ransohoff J. Osteitis Deformans Central Sarcoma Streptococcus Infection. Lancet 1917.
93, 3, 672. By Surg. Gynec. & Obst.

The patient a male 49 years of age without any history of venereal disease was in good health up to five years previous when he began to suffer with pain in the left leg so severe at times as to demand morphia. Three years later he became quite lame as a result of the forward and outward bowing of the tibia. A soft tumor mass over the tibia was opened on the supposition of it being an abscess but no pus was present. Following this incision the leg began to swell reddened to the knee and a continuous fever developed which induced him to seek admission to the hospital. His temperature at this time was 103.5 leucocytes 23,000. The left leg from the ankle to below the knee was twice as large as the opposite one the skin bright red tense and glistening. Over the center of the bowed tibia there projected from an opening a fungus mass as large as a hulled walnut which bled freely whenever touched. From this opening there was also a profuse foul, purulent discharge—the stain of which showed a streptococcus.

The skiagram shows marked bowing of the tibia with a chronic inflammatory process extending practically along the entire length of the bone. Rarefaction hyperplasia and subperiosteal condensation of bone are in evidence. The fungus mass is plainly seen projecting through an aperture in the compact anterior wall of the tibia at the point of greatest bowing.

The diagnosis of central sarcoma secondary to deforming osteitis with extensive bone infection was made and amputation through the lower third of the left thigh was performed under spinal novocaine anesthesia.

The writer reports on the pathological findings which confirmed the diagnosis.

Ransohoff states that he has failed to find in the literature any mention of cases in which streptococcus infection has occurred in osteitis deformans or of central bone sarcoma. CHARLES M. JACOBS

Ely L. W. Diseases of Joints and Bone Marrow. Am. J. S. 19, 3, 22, 11, 370.
By Surg. Gynec. & Obst.

Inflammation of the bone-marrow may be caused by any number of different organisms—chiefly the common pus producing organisms.

In the more common form the original focus usually forms in the marrow of the metaphysis and spread until it reaches the central marrow canal. The inflammatory process spreads through the cortex and involves the deep layers of the periosteum here pus forms and may make its way to the surface unaided.

When an osteomyelitis has run its course the sequestrum remains in the involucrum indefinitely. In treating osteomyelitis it has been the rule to allow Nature to do all she could before there was any operative interference but Nichols advises the

removal of the soft tissue as well as the periosteum has formed enough new bone to hold the limb in place.

In syphilitic osteomyelitis and periostitis syphilitic lesions may occur in the tertiary form of the disease or in the late secondary tertiary stage of the acquired form.

There is local destruction of the bone and the formation of a large sized collection of pus which is usually surrounded by a layer of bone. These are usually found just beneath the periosteum and firm across the surface openings of which are dark red ragged and ulcerated. The thick ring of the periosteum is peculiar and almost firm as is the peculiar saucer shaped area. The characteristic is like a trap door.

Typical of the disease and periostitis are fairly frequent congenital lesions of the disease in maldevelopment of the bone. These lesions are frequent and of the form of the disease remain permanent for a long time. The treatment is conservative.

The author reports a case of osteomyelitis of the femur in a child. The etiology is unknown. The disease is characterized by a symmetrical involvement of the bone. The bone is bowed outward and is firm too late for the trunk. The disease is considered incurable.

Lickets is a congenital disease of infancy and childhood characterized by two changes especially in the long bones. The most marked changes take place in the region of the epiphyseal line which becomes irregular and broken. The bones become soft and bent and deformities take place after the disease has run its course. The treatment is largely conservative but deformities must be corrected by operation or by other means.

The condition of osteomyelitis is characterized by a general deficiency in bone formation both in the diaphysis and in the epiphysis. The characteristic manifestation of the disease are the abnormal shape of the bones and the multiple fractures from their fragility. The only treatment is to protect the patient.

Osteomalacia is a disease of known etiology characterized by an inflammation and degeneration of the spongy and of the dense bone. No true response to roentgen rays is observed. The disease is characterized by the loss of the bone and the bone becomes unable to support the load. The treatment is usually fruitless.

An osteoma is a tumor which consists of bone tissue and is usually found in the skeletal bones. These tumors which may be either multiple or single are made up of a layer of periosteum alone or a layer of cartilage in addition. The treatment is removal. Recurrence is fairly frequent but these tumors are not malignant.

New growth of the marrow in the periosteum may be either benign or malignant. Of the former class

the so called benign myeloma or giant-cell sarcoma is the most important. In recently this tumor was regarded as a variety of sarcoma but it is now shown by many authorities to be a distinctly benign growth with a tendency to local recurrence, if not thoroughly removed.

Myeloma occurs most frequently in young adults and usually without any known cause. The myeloma is a growth of the marrow consisting of large numbers of the so-called giant cells and round cells with a characteristic osteoma. This has a thin but well covering. As the tumor increases in size the bone is resorbed but there is little if any production of new bone. The patient may show a rather extensive area of bone erosion by a large well defined shell of bone.

Some authors say the prognosis is dangerous. Another group says it is more favorable to operation.

In a special case the myeloma must be operated on ever part of the disease must be removed with a cure and the cavity washed with antiseptic and alcohol. If the tumor returns the operation may be repeated several times if necessary. R. O. RUTHER.

Taylor H. L. Charcot Joint as an Initial or Early Symptom in Tabes Dorsalis. *J. Am. Med. Assn.* 1914. By Wm. C. York & Co.

The author reports 23 cases and draws the following conclusions:

1. Charcot joints and spontaneous fractures are of an initial or early symptoms of tabes dorsalis.
2. Charcot joints are frequently of traumatic origin and often of low fractures and lesser injuries.
3. The result of rhizotomy treatment in early or moderate cases is very satisfactory.
4. Orthopedic treatment by protective splinting should also be used in the case of joints of tabes due to hyposthenia but before the appearance of well guarded cases.
5. The term Charcot joint should be used in preference to the term locomotor ataxia.

Worley J. T. Muscular Intramuscular Ossification. *J. Am. Med. Assn.* 1914. By Wm. C. York & Co.

After a study of the theories of causation experimental demonstration of the differential diagnosis and treatment of trauma in intramuscular ossification the author arrives at the following conclusions:

1. Trauma is the cause of muscular ossification.
2. The process is a direct migration of osteoblasts into the injured muscle and blood clot after death of the periosteum and loss of its function in forming membrane for the growth of bone.
3. The process is the same process as all forms of ossification.
4. The condition may be produced experimentally in animals by reproducing the same mechanical condition by a well open perforation.

3 In a case of difficulty in diagnosis from sarcoma open exploration is advisable

4 Simple excision is usually though not invariably followed by recurrence

5 Conservative treatment condemns the patient to a long period of disability which may occasionally be permanent

6 Excision combined with grafting of deep fascia on to the denuded surface of bone gives the best prospect of rapid and complete recovery and is urged for all cases not complicated by ossifying periarthritis

7 Osteoblasts and chondroblasts are the same cells under different conditions of nutrition

M S HENDERSON

FRACTURES AND DISLOCATIONS

Burnham A C. Spontaneous Fracture and Bone Cysts *Int J* 9 3 2

By Surg Gynec & Obst

The author reports the case of a policeman who fell and fractured his leg. Subsequent examination by the X-ray showed an area of softening in the tibia at the point of fracture and the picture resembled very closely that of a benign bone cyst. Operation revealed a giant celled sarcoma after amputation the patient made an uneventful recovery.

The author comes to the following conclusions (1) Certain cases of giant-cell sarcoma very closely resemble benign bone cysts both in the early symptoms and in the radiography of the early stages of the growth (2) every case of fracture from slight trauma should be X-rayed and (3) in giant cell sarcoma of the long bones there is often slow growth with the absence of metastases J H SALTER

Jones R. An Orthopedic View of the Treatment of Fractures *Am J Orth Surg* 9 3 34

By Surg Gynec & Obst

Every fracture is a potential deformity and the first consideration in treatment is to maintain a true anatomical alignment of the shaft in case of long bones. The traditional wooden board is not the best for this purpose as no human limb will fit a flat board. Sheet iron gutter shaped fitted to each case and padded to avoid bony prominences is best and distributes the pressure around the limb thus precluding pressure sores. In fractures near or in the joints the proper disposition of small fragments is of great importance in restoring alignment especially of a soft element. If properly handled the tendon and muscles passing a joint are of assistance in treatment for example in the elbow with fracture of condyles the triceps tendon can serve as an effective splint if the arm is put in acute flexion as is now almost universally done to deal with the right angle method.

It is well to follow the rule of Thompson namely that a part which is tender to palpation not directly from the bone. If after tenderness has dis-

appeared five or ten degrees motion is obtained a good prognosis may be given. Passive movement should later be done once in each direction in which motion is limited. Passive movements to and fro are likely to stir up inflammatory reaction which results in more adhesions. Massage should be used lightly to avoid stimulating the young callus to fresh overgrowth. Experience shows that except in the actual condition of disease nearly all cases of "non union" are really cases of "delayed union."

The time required for union is a personal equation and may be two or three times the expected period. The author uses the hammer and dam method of Thomas in these cases. The region of the fracture is hammered with a rubber mallet then a tight elastic band is placed above and below at a distance of several inches. Physiological use is the best agent to assist in making union solid but it is wise to protect a fracture with artificial support even after it appears to be firmly united. In fracture of the neck of the humerus the upper fragment is frequently abducted after the fracture forcible breaking of adhesions should not be attempted for at least three months.

Fracture of the shaft of the humerus rarely requires operation except to free the musculospiral nerve from callus. Superfluous callus in front of the elbow joint will absorb under continuous pressure of acute flexion. In fracture of both bones of the forearm if the ulna is held straight the radius will almost take care of itself. It is important to see that supination is possible before the callus gets too hard. Gutter shaped metal splints are best. Stiffness of the wrist and pain on motion six months after a callus fracture nearly always means an improper reduction the deformity should be corrected under gas. Extreme tenderness in the anatomist's snuff box usually means fracture of the scaphoid in this and other fractures of the carpus the wrist should be put in dorsiflexion. In fracture of the shaft of the femur the author does not use weight and pulley extension but overcomes the shortening by extension with a caliper splint the counter pressure of which comes on the perineum. This he claims prevents muscular spasm as a result of varying muscular tension. In fractures of the neck of the femur he puts the leg in abduction in a double Thomas hip splint. Impaction is broken up only if there is rotation or material shortening. Fractures of both bones in the lower fourth of the leg are usually operated upon by the author because of difficulty in securing alignment by any other method.

W A CLARK

Parham F W and Martin E D. A New Device for the Treatment of Fractures. *J Orth V* 4 5 J 9 3 1 45. By Surg Gynec & Obst

The authors discuss the difficulty of holding oblique fractures by means of wires and nail. They have used a band of metal three-eighths of an inch wide 6 inches in length made with a slit in one end. The wire is passed about the fracture and

Hiltzot, J M : Some Problems in Bone Surgery
W s M J 19 3 xii By S rg Gynec & Obst

The author takes up in five stages the theory of regeneration of bone as advanced by Dupuytren and reviews the work of Wieder on regeneration giving the following five stages

1 First to fourth day period of infiltration
 2 Fourth to twelfth day period gradual absorption of the exudate from the soft parts and its replacement by connective tissue The endosteum undergoes formation of osteoid trabeculae at a distance from the line of fracture

3 Twelfth to eighty fifth day stage of reorganization Augmentation of the callus where it is most needed and absorption where it is not required

4 Permanent callus format on e ighty fifth to two hundred and eightieth day absorption of callus with re deposition of denser bone in the dilated spaces and the appearance of distinct lamellae in the new bone Wieder did not continue his work to the fifth stage as did Dupuytren but he points out that in fractures that had united perfectly there is up to the third month nothing but cartilage or connective tissue across the line of fracture Cartilage was always found on the concave side of the fracture with its apex at the line of fracture and its base at the periosteum

The author states that his work and the information derived from it so closely resemble that of Wieder that if repeated at length they would paraphrase his findings already given He states that the most important factor in the stage of exudation is the formation of fibrin

In conclusion judging from his experiences he believes that bone graft covered by periosteum, and with endosteum on its inner surface is the best graft to use He points out that there are discrepancies in all the experimental work that there are certain undetermined factors which seemingly cause a failure of bone production by the periosteum under identical conditions with those in which bone is produced and that the endosteum is an important factor in the regeneration of transplanted bone
 P B MACNEVOV

Dennis, W A : Treatment of Osteomyelitis
Paed M J 9 3 xv 605 By Surg Gynec & Obst

The author wishes to emphasize certain well-established principles in the treatment of septic inflammation of the bones which are often lost sight of In acute osteomyelitis the opening in the cortex should extend as far as there is any sign of pus in the medullary cavity Simple drainage is all that should be sought The medullary cavity should not be curetted since that procedure destroys the endosteum and removes the last chance for healing without necrosis Nichols deserves the credit for emphasizing this important point Even so valuable a work as Von Bergman's System of Surgery makes the mistake of recommending the curet-

tage of the medullary cavity in acute cases The English system of Cheyne and Burghard does the same

Some of the cases of acute osteomyelitis are accompanied by effusion into the neighboring joint This may be due to invasion by the infecting organism, but is more often due to secondary circulatory changes and edema Even if infected the joint should not be opened and drained, as was taught until the past few years but should be aspirated and irrigated or injected and this repeatedly if necessary The open drainage has almost invariably resulted in a stiff joint

The author calls attention to an etiological factor which is infrequently mentioned He states that the importance of suppurative middle ear disease has apparently been entirely overlooked and yet an inquiry into the history of all the cases coming under observation during the past two years shows that a large percentage especially in children had suffered from suppurative otitis media Granting the correctness of this observation its importance can hardly be overestimated first because it shows the necessity for competent treatment for this condition whenever found second, that of taking care of any active process that may be there present at the time of operating upon a case of osteomyelitis and finally the prime importance of early care of those two great causes of suppurative middle ear disease inflamed tonsils and adenoids The reason that active suppurative osteomyelitis is so often multiple and consecutive is that while the first bone involved is treated the infecting focus is allowed to remain undisturbed and often even unsuspected The importance is therefore emphasized of determining whenever possible the primary focus of infection and subjecting it to efficient treatment

The author then takes up the question of the value in chronic cases of various plugs and comes to the conclusion that Mosetig's iodoform wax plug provided it is used according to directions gives the best results
 EDWARD L. CORSELL

Brown W L and Brown C P Preliminary Report on Bone and Periosteal Transplantation
Surg Gynec & Obst 913 xvi 68 By Surg Gynec & Obst

During 9 1 to 1913 the authors carried out a series of experiments on dogs to determine if possible the answer to the following questions

- 1 Will periosteum produce bone when transplanted into tissues without bony contact?
- 2 Will periosteum produce bone when left attached to bone and periosteum at proximal end, passed around fascicula of muscle and again contacted with periosteum?
- 3 Will bone reproduce bone and continue to live when deprived of periosteum and transplanted into the tissues without contact with living osteogenic tissue?
- 4 Will bone live and reproduce bone when transplanted into the tissues, not deprived of its

periosteum and not contacted with living osteogenic tissue?

5 Will bone live and reproduce bone when transplanted and contacted with living osteogenic tissue?

6 Will bone reproduce bone without the aid of periosteum?

7 Is it essential that the transplant have a function in order to be permanent?

Based upon their experimental work to date the authors draw the following conclusions

1 They were unable in any experiment to reproduce bone from free periosteal transplants into the subcutaneous tissue and muscle

2 They were unable to reproduce bone in any periosteal flap which was raised left in contact with the bone passed through muscle and again contacted with periosteum with the one single exception where there was a small nodule of bone formed apparently in the free end of the flap corresponding to another nodule on the shaft of the bone opposite leading them to the belief that because no bone had formed anywhere else in the flap the bone in the tip of the free periosteal flap was due to osteoblasts raised from the corresponding area on the shaft of the bone

3 They were unable to reproduce bone in any experiment from free bone transplants without periosteum into the subcutaneous tissue and muscle regardless of the age of the transplant Absorption was the rule in every case

4 They were unable to produce bone in a single experiment where bone was transplanted free periosteum being left intact into the muscle or subcutaneous tissue These transplants were uniformly absorbed

5 They were uniformly able to reproduce bone when transplanted and contacted with living bone if it were in position where it had a function to perform

6 Other necessary conditions being present for its reproduction bone reproduce bone without the aid of periosteum

7 The transplants that were contacted with living bone and had no function to perform were inclined to absorption

8 While periosteum may be an aid to the life and growth of bone the authors were not able to prove in any experiment that it was at all essential

Allison N and Brooks B The Mobilization of Ankylosed Joints *Surg Gynec & Obst* 913 vn 645 By *Surg Gynec & Obst*

The object of the experiments was the study of the changes which follow the interposition of certain substances between denuded joint surfaces Dogs were used for all experiments and the substances studied were

- 1 Cargile membrane
- 2 Free transplants of fascia lata
- 3 Pedunculated flaps of fascia lata
- 4 Chromicized pig's bladder (Baer)

5 Fascia lata which had been treated by a chemical process, in which the fascia was impregnated with finely divided silver

From dissection and microscopical study of the experimental joints after varying periods the following is emphasized

1 Cargile membrane does not prevent union of opposed denuded joint surfaces

2 Fascia lata prevented union of the joint surfaces only in those experiments in which the fascia transplant underwent necrosis and absorption In the instances in which the transplant preserved its vitality it adhered to the joint surfaces and bound them together

3 Pedunculated flaps of fascia were in no way superior to free transplants and they had the disadvantage that the pedicle persisted as a band limiting joint motion

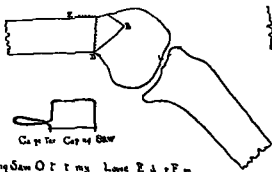
4 Chromicized pig's bladder (Baer) produced in the joints a large amount of fibrous tissue which bound the denuded joint surfaces together

5 The silver impregnated fascia was a relatively non irritating absorbable substance which prevented the union of the joint surfaces

Osgood R B The End Results of Attempts to Mobilize Stiffened Joints *Surg Gynec & Obst* 193 xvii 664 By *Surg Gynec & Obst*

After discussing the successes and failures of attempts to mobilize stiffened joints the author states that the operation is applicable to cases of permanent flexion of the knee-joint with useful motion in further flexion remaining (1) Cases in which from growth or disease the contour of the condyles offers bony resistance to complete extension (2) long continued contractures in which forcible extension would bring too great pressure on vessels and nerves

The technique consists of two inch incisions on either side of the femur just above the condyles posterior to the upper cul-de-sac of the knee joint blunt dissection carried over the top of the femur beneath the upper cul-de-sac joining the two incisions a small saw blade or carpenter's coping saw (see figure) at B the angle of the cut is changed



and a saw cut made to D. The saw is then disengaged from the jaws of the instrument and a fresh saw is passed over the top of the bone and engaged in the jaws. A second saw-cut is then made in the direction of CD to join the saw left for purposes of orientation. The quadrilateral portion of bone being now entirely free (ABCD) it is pushed out through one of the incisions and the leg straightened. The line BD is opposed to line CD with the lip of the condyle along line IC extending over the top of the proximal portion of the femur thus preventing backward displacement of the condyle.

The advantages of the operation are (1) Simplicity of performance (2) avoidance of injury to the upper cul de sac of knee joint and impossibility of common backward displacement of the lower end of the femur.

Flores R. L.: Implantation of Joints. *Calif St J Med* 1931 435 By Surg. C. W. C. and Obst.

The author cites two cases of implantation of joints reviews briefly the literature and discusses the question of regeneration of bone.

In his first case of ankylosis of the ankle following resection of the astragalus he exposed the joint resected the malleoli and gouged out a space in the os calcis to receive the graft. Portions of the tibia fibula and astragalus were removed from a cadaver and preserved in Ringer's solution until negative blood examinations were obtained seven weeks after operation suppuration persisted and amputation was done.

The preserved specimen showed a firm fibrous union of the tibial portion of the graft and around the bones was a mass of callus thrown out by the remnants of the patient's tibial periosteum which surrounded the implanted joint.

The second case was one of ankylosis at the base of the ring finger. An implant was made 60 hours after the death of the donor. The wound has healed and as a result the patient has 15 degrees active and 60 degrees passive motion in the joint. There is a firm bony union.

The author's conclusions are best given in his own words:

1. Implantation of joints is a feasible and useful procedure.

2. Much of the implanted bone becomes necrotic. It is not shed however but amalgamates and is absorbed and replaced by living bone.

3. A small part of the implanted bone remains alive viz. the superficial inner and outer layers.

4. Much of the implanted periosteum and endosteum remains alive and is probably the source of the new bone.

5. A subsequent arthritis deformans does not seem to develop in the new joints.

6. The fresh cadaver is the most practicable source of material.

Only fresh cadavers of patients who have died suddenly of a non-infectious disease should be used.

8. Absence of infectiousness should be assured by bacteriological and serological tests."

J. M. C. C. C.

Magruder F. P.: Infantile Paralysis Affecting the Lower Extremities. Its Surgical Treatment and Possibilities of Cure: A Preliminary Report. *J Am Med Ass* 1931 1703

By Surg. Gyner & Oler

The author reports the operation and after treatment in a case of anterior poliomyelitis presenting a complete paralysis of the entire right lower extremity except for a slight tonicity of the biceps muscle. The operation consisted in transplantation of the biceps into the patella and a double fixation of the ankle joint by means of three screws. With the foot in the corrected position at right angles to the leg one screw was passed through the external malleolus, astragalus and calcaneus another through the internal malleolus almost at right angles to the first while a third screw was passed through the scaphoid and cuboid fixing the key of the arch of the foot. The head of the femur was returned to the acetabulum and a plaster of Paris cast snugly applied from the foot to the costal margins and allowed to remain for six weeks. The wounds healed by first intention.

Following this procedure a long course of patient effort at functional use was carried out and now the patient can walk as far as 50 feet without supports of any kind.

The author believes that fixation of the ankle by this method is a valuable substitute for arthrodesis much less destructive of tissue quicker in result surer and simpler. Moreover the screws can be removed when sufficient strength has returned thus restoring in part the integrity of the ankle joint.

F. C. P. SWETT

ORTHOPEDICS IN GENERAL

Mayer L.: Paralysis of the Quadriceps Femoris. A Clinical Study of the Paralysis and Discussion of the Mechanical Principles Involved. *Am J S* 1931 44

By Surg. C. W. C. and Obst.

The author takes exception to the opinions of Volkmann and Hoffs that quadriceps paralysis invariably leads to genu recurvatum and to the opinion of Duchenne and Oppenheim that a patient thus paralyzed is unable to stand with knees flexed. To prove this content on Mayer has made a model representing the mechanical condition present in quadriceps paralysis and he is able to balance this model with the parts in a position of flexion at ankle knee and hip. He has also taken a cinematographic photograph of a patient with quadriceps paralysis showing the patient walking climbing stairs and rising from a sitting position. These show that the action of the quadriceps can be replaced to a great extent by the weight of the body provided the other muscles of the thigh and leg are

well developed and properly coordinated A moderate degree of equinus position aids in this extensor effect of the body by bringing its center of gravity posterior to the new fulcrum — the heads of the metatarsals — thus established The gluteus maximus and the soleus act directly as extensors of the knee by drawing the thigh and calf backward These facts the author claims, provide contra indication to operation for an isolated paralysis of the quadriceps extensor

GEO I BAUMAN

Geist F S The Etiology Diagnosis and Treatment of Weak-Foot and Similar Conditions. *St Pa Med J* 19 3 xv 506

By Surg Gynec & Obst

The author gives the etiology of muscular imbalance of the common static weak foot as being due to ill fitting shoes callosities ingrowing nails faulty posture hard modern floors muscular weakness resulting from illness and lack of exercise and deformity He treats these conditions by the selective use of various exercises Thomas heel Ochsner strapping elevated inner sides of shoes appropriate shoes and a modified celluloid brace He also calls attention to the promiscuous use of arches in all cases presenting foot trouble

In discussing those conditions which simulate weak foot i e Morton's foot calcaneal spurs tuberculosis foreign bodies accessory bones varicose veins fractures arteriosclerosis endarteritis obliterans and multiple arthritis the author lays especial emphasis on the use of the X-ray as an aid in diagnosis

H W MEYERSON

Whitman R The Importance of Positive Support in the Curative Treatment of Weak Feet and Comparison of the Means Employed to Assure It *Am J Orth S* 2 9 3

By Surg Gynec & Obst

The primary disability of so called flat foot is a lateral distortion the lowered arch being secondary There is passive attitude of abduction which is characteristic of all weak feet the cure then is rationally a substitution of normal attitude For children support is necessary because the cooperation of the patient can not be had The brace for weak feet is used by the author an instrument of precision that is to say which the brace is made is taken with the foot lying on its outer border the weight of the limb in this position correcting the abduction The inner flange of the brace rises above the astragaloscaphoid articulation while the outer

flange which is lower extends from behind the posterior tubercle of the os calcis to a joint behind the base of the fifth metacarpal The brace thus prevents lateral distortion it is a positive support it not only prevents deformity but the predisposition to it and enforces a proper attitude in walking It differs from other plates in not being broad in front and not enclosing the heel It is made of unyielding metal A necessary accompaniment is a properly fitted shoe which will tend to throw the weight outward instead of inward Treatment by gymnastics is ineffective unless deformity is restrained A positive brace is applied to hasten a permanent cure and enable the patient to dispense with all support

W A CLARK

Davis G C The Treatment of Hollow Foot Pes Cavus. *Am J Orth S* 2 1913 x 23

By Surg Gynec & Obst

The main characteristic of hollow foot is elevation of the arch There are two varieties paralytic and non paralytic

For the paralytic cases there is no standard of treatment applicable to all cases Operative treatment is to be undertaken only after conservative treatment two to five years after the initial attack the aim being to support the anterior part of the foot and depress the arch To accomplish this a steel shanked shoe with double strap over the insole may be used In equinus tenotomy of the achilles suffices For calcaneus it may be necessary in addition to tenotomy of the plantar fascia to transplant the tendons of the posterior tibial and the peroneus to the os calcis The operation of Forbes, transplantation of the extensor longus hallucis to the head of the first metatarsal may be necessary to hold up the ball of the foot

Procedures necessary in the treatment of the non paralytic type are tenotomy of the plantar fascia and tendon of the flexor longus hallucis lowering of the elevated arch by instrumental means wearing of steel shanked shoes with a strap across the instep

In case of complete paralysis of the calf muscles extreme calcaneus and flail foot the Whitman astragalectomy, or the more complicated osteotomy of Jones, should be done The author describes the technique of his own operation for this condition which differs from both of these He makes a transverse horizontal section of the tarsus through the subastragaloid joint then pushes the foot backward and the leg forward holding it in that position in plaster for eight weeks

W A CLARK

SURGERY OF THE SPINAL COLUMN AND CORD

Venbl C S B n Implantation in Pott's Disease *Tex St J Med* 9 3 46

By Surg Gynec & Obst

The author briefly describes the invasion predisposing causes and pathology of Pott's disease

and with some detail discusses the typical Albee operation

In a short report of one case the usual predisposing causes as tubercular parentage faulty nutrition the exanthema and direct cause and the

tubercle bacilli lodging in fertile soil are all mentioned.

The anatomy of the blood supply and the formation of the vertebrae with the pathology and progress of a typical tubercular process with nature's attempt at repair is also covered.

The author states that absolute rest is the essential in the cure of this disease and has been the key note of all treatment since the disease was described by Pott but he believes that the so-called classical treatment of rest in bed, decubitus and extension, corsets and other mechanical devices with the object of fixation of the diseased area has not been satisfactory.

The typical Albée operation is described in some detail the spines above and below the diseased area are exposed and split and a wedge from the tibia inserted and sutured and the wounds closed. Following this mechanical effects are noted at once, and only rest in bed the patient being allowed to move from side to side with the usual general hygienic measures is all that is needed.

No mechanical support is used, and recovery is uncomplicated and the repair progressive.

A report is given of a tailor who had been unable to work for eighteen months because of pain, but who was able to return to work after fourteen weeks from the date of operation. C. C. CHATTERTON.

SURGERY OF THE NERVOUS SYSTEM

Lippens Luxation of the Ulnar Nerve (La luxation du nerf cubital) *Bull de l'ass med belge d'accid d travail* 1913 x v 2 By Journal de Chirurgie

The ulnar nerve is the only one in the body that can be dislocated. At the elbow it lies in the bottom of a groove formed by the internal condyle inside and the olecranon outside. It passes between the two heads of the flexor carpi ulnaris muscle. It is moreover kept in place by a transverse fibrous band extending from the olecranon to the internal condyle. As the result of a fall a violent effort or an injury, which may be insignificant one of the muscular bundles of the flexor carpi ulnaris or the fibrous band may be stretched or torn. Then the nerve is not held firmly in its groove. Every time the patient flexes his forearm on his arm quickly the nerve passes in front of the internal condyle. It is an intermittent dislocation and it is surprising that it does not take place oftener when we consider the frequency of injuries to the elbow. But in addition to the immediate cause there must be a predisposing cause in the shape of inefficiency of the natural means of holding the nerve in place. Incomplete development of the internal condyle is as important from this point of view as absence of the fibrous band.

The symptoms do not leave any doubt as to the nature of the affection. The nerve is displaced with every flexion of the forearm and there is severe pain in the region supplied by it. The continual irritation of the nerve finally causes neuritis which may lead to serious consequences if not treated in time. The treatment consists in exposing the nerve and making a new sheath either from the perosteum of the olecranon and internal condyle or from the neighboring aponeurosis.

Lippens had a case in a workman as a result of a fall on the elbow. At the first operation he detached the perosteum from the internal condyle and sutured it over the nerve to the tendon of the triceps. There was recurrence and the second time he detached the perosteum from the olecranon and sutured it to that of the internal condyle. This resulted in complete recovery. J. DEMOY.

Perekropoff A. J.: The Regeneration of Nerves by Uniting the End with Blood Vessel Tubes (Die Regeneration von Nervenenden bei Verwundung des Faden durch Gefässröhren (Arterien und Venen)) 4 d k L n Ke on 93 lrv, 1 By Zentralbl f d ges Ch u Grenzgeb

The great experimental work of this author which has been published also as a dissertation (Kasan, 1913) was carried out on dogs. After resecting pieces of the sciatic and tibial nerves, 1 1/2 and 2 cm long the gaps were filled in with arteries and veins, and the process of regeneration, especially the method of penetration of the nerve fibers was studied. The literature of nerve suture is treated in detail, and cases are cited in which the attempt was made to protect the nerve suture with blood vessel tubes (Foramitti, Hashimoto, Tokooka, Treutlein, Spatzky, von Eselsberg, Lexer, Wrede and others).

The author's own cases include 37 experiments on 28 dogs. Ten experiments were on the sciatic nerve and 27 on the tibial — four times the carotid artery of the same dog was used. Veins were used in 33 experiments the jugular being used either fresh or prepared by Foramitti's method in ten experiments. The suturing was done with the finest silk and catgut. The duration of the experiments was 15 to 377 days. The specimens for microscopical examination were prepared by Ramón y Cajal's method and colored by Weigert's and von Gieson's stain.

On the ground of his experiments and the microscopical pictures the author comes to the following conclusions. The regeneration of the peripheral end of the nerve takes place as a result of the nerve fibers of the central end growing through the blood vessel. The peripheral end and spliced pieces of nerve do not influence the growth of the fibers in the sense of neurotropism but only serve to point out the direction of growth. The steel tubes of the arteries and vein are suitable material for uniting the ends of nerves. The arteries are absorbed very slowly. Fresh vessels of the same animal are to be preferred to prepared cases.

The veins are more convenient to use for material than the arteries. The vessels are not only adapted for uniting widely separated ends of nerves but they are a good protective material in nerve suture and neurolysis. The nerve fibers grow through the lumen of the vessel and provide the peripheral end with axis cylinders even when it is two or three cm

away. The growth of the nerve fibers is hindered by blood clots and connective tissue formation. The vessel tubes are very well adapted to uniting small nerves in this case the ends of the nerves only have to be inserted into the lumen of the vessel. The best suture material for nerves is catgut. Detailed case histories conclude the work.

SCHACK

DISEASES AND SURGERY OF THE SKIN FASCIA, APPENDAGES

Kirschner. *U. Present Status and Prospects of Autoplastic Transplantation of Fascia* (Der gegenwärtige Stand und die nächsten Aussichten der autoplastischen freien Fascien-Übertragung). *B. u. r. kl. Ch. o. v. lxxv. 5.*
By Zentralbl. f. d. ges. Chir. Grenzgeb.

Fascia transplantation which has had the most practical success of any of the modern attempts at transplantation is reviewed critically by the author who has a large amount of material of his own to report and numerous cases from the literature. The essential point in successful transplantation of fascia is that the transplanted material should take with any inflammatory reaction. At rest as well as when in functional activity the autoplasmic transplant shows a tendency to live and become incorporated with the neighboring connective tissue even if it has been impossible to carry out absolute asepsis.

Some surprising results have been obtained in the covering over of infected cavities. The transplanted fascia undergoes changes such as swelling and vascularization. It may be transformed into connective tissue callus or fatty tissue often however it lives in its normal condition. A necessary condition for good results is that the transplantation should be autoplasmic in opposition to the opinion of Rehn who recommends homoplastic transplantation. Fascia has the advantage over other kinds of material such as peritoneum and perosteum that it is easier to obtain a degree of greater firmness.

In the special section Kirschner discusses the use of fascia lata to form artificial tendon. He points out the difficulty of securing firmness with the ordinary tendon suture the limited possibilities of bridging over a gap by autoplasmic transplantation of the tendon of the palmaris longus and the security of the artificial replacement of a tendon by silk. All these disadvantages are overcome by the use of fascia lata. It can be used in the following various ways:

1. In the form of a cuff to strengthen the suture where broad end of tendons are brought together.

2. For bridging over a large gap by being rolled around the stump of the tendon and sutured. In this way a union of the fascia is obtained which is not in danger of being torn out unless it is placed under great tension and so its functional activity can be resumed early. This renders secondary adhesions to the surrounding tissues impossible and insures the mobility of the tendon. 3. Confining

to the cases reported early motion seems essential even if there is slight infection. An artificial sheath of fascia may be put around the saphenous vein to insure its moving smoothly.

3. For the correction of paralysis of the facial muscles. (a) In Pagenstecher's operation in ptosis a strip of fascia is inserted subcutaneously between the oculomotorialis and the upper lid and by lifting up the lid the normal correction is obtained. (b) For complete paralysis of the facial nerve a band of fascia is arched anteriorly so as to include a large extent of tissue drawn through the soft parts of the paralyzed angle of the mouth the two ends are drawn over and under the zygomatic arch and sutured so that the angle of the mouth is held in the desired position.

4. To replace ligaments of joints. () In the treatment of flat foot when it is in the position of pronation the tuberosity of the navicular bone is fastened to the internal malleolus with a strip of fascia and in this way the foot is fixed in a position of supination. The author opposes Katsenstein's method of using periosteum in this way. Both methods must of course find their justification in the permanent results obtained. Even though the firmness of fascia is seven times as great as that of periosteum an absolutely permanent fixation is by no means assured. The use of bands of fascia in the treatment of dislocation of the fibula seems feasible. The torn retinaculum of the fibula is sutured and strengthened by a strip of fascia applied over it. In the same way the torn capsule of the knee joint may be strengthened by superimposed flaps of fascia.

5. Paralysis of the serratus may be corrected by uniting the lower angle of the scapula with the rib below it. The procedure the same in paralysis of the trapezius. It is not clear however what advantage there is in transplanting fascia in a location where functionally active muscle could generally be made use of. There is a special indication for fascia transplantation in Kirschner's method for juvenile muscular dystrophy of the shoulder girdle because this disease involves several muscles and it is not possible to replace them by functional muscle.

6. In the treatment of habitual dislocation of the shoulder the author recommends a band of fascia 3 to 4 cm long and the left end and over the capsule of the shoulder joint.

7 For fixation of entire glandular organs such as the kidney and testicle

8 To close the cavity of the stomach and intestine and for the treatment of rectal prolapse in the form of Thiersch's ring. A large field for its use is found in the closure of hernias in the region of the umbilicus, the linea alba and the lateral abdominal wall. In such cases the fascia can be sutured over the gap and bridges it over more advantageously than any other known material. The same thing is true in the inguinal canal when anatomical conditions render Bassini's operation difficult. In femoral hernias Kirschner recommends a long strip of fascia as a tampon behind the hernial sac which has been tied off and between the peritoneum and the femoral fascia to stop up the hernial canal below the suture.

Large flat flaps of fascia can be used to close up openings in the thorax so that they are air tight after the removal of large tumors, for instance. The skin is sutured over the fascia. The fascia is resistant

to variations in pressure. Fascia flaps may be used to close up defects in the dura. In this location the fascia has the capacity for closing up the dura so as to prevent the escape of cerebrospinal fluid and the entrance of infection and of preventing secondary prolapse of the brain.

Kirschner reports 46 cases where there was healing by first intention in all cases and he has exact details in regard to 30 of them. He had excellent results in the use of fascia to replace the dura in fresh traumatic injuries in three cases. Whether the fascia forms adhesions with the pia and the brain is not yet definitely determined but there are several ways in which it may occasionally be used. As a sheath to surround and strengthen a blood vessel suture, to strengthen the walls of an aneurysm to strengthen intestinal or urethral sutures and to close up vesicovaginal fistulae to close cavities in mucous membrane and for interposition in mobilizing ankylosed joints.

Holt

MISCELLANEOUS

CLINICAL ENTITIES—TUMORS, ULCERS ABSCESSSES ETC

Bloodgood J C Control of Cancer J Am U
A 1931 2283 By S R Gynec & Obst

The number of cures of cancer can be increased by earlier intervention and better surgery. Statistics as to the percentages of cure of the various forms and stages of cancer can be furnished by the records of the great clinics of this country in which the cases are carefully checked up by pathological examination. The records show that the percentage of cures in the fully developed cancer is relatively small and is smaller when the diagnosis can be made clinically than when it can be made only histologically. In cancer of the breast the proportion of cures after five years in cases that can be recognized clinically by retracted nipple or adherent skin is about 25 per cent of those that can be recognized only by gross appearance on section or by the microscope it is 80 per cent.

In the control of cancer both the ranks of the profession and the people must be taught the importance of eradicating the disease while it is still clinically benign. The old method of waiting for the signs of cancer simply means decreasing the probability of a cure. Among 82 pathologically fully developed cancers of the skin and visible mucous membranes Bloodgood was unable to find the absence of a previous defect which might be looked on as a benign precancerous lesion. Of 997 epithelial tumors of the skin and visible mucous membranes 73 were histologically benign, and there was not a single failure to cure in this latter group. The actual proportion of these lesions has increased from 17 to 39 per cent in two years.

We have not to-day the figures to prove that the routine and proper removal of these benign so-called precancerous lesions will reduce the number of deaths from cancer but the recent evidence is suggestive. More operations will be done for the precancerous lesions and in the early stage of cancer that is not yet clinically recognizable, with probability of cure fewer cases will thus present themselves with inoperable cancer. In internal cancer it is more difficult to recognize the precancerous lesion and until this is done we cannot hope to increase greatly the percentage of cures.

The author believes that greater uniformity must be established in the treatment of cancer in the different localizations the diagnosis must be made at the exploration of the tumor and in cases of doubt the complete operation for cancer must be done.

Patients with malignant disease present themselves for aid in the following six groups:

1 Hopeless and inoperable cases in which there is no hope even for the palliation of the symptoms by any operation.

2 Inoperable and hopeless in which cases, attempt to relieve pain and prolong life by some operative procedure may be made.

3 Clinically malignant and apparently operable cases in which at operation the disease is found to have extended beyond possible removal with knife or cautery.

These three groups represent inoperable cancer and up to the present time have been incurable. The hopeless condition is often due to delay and procrastination by patient and physician and it is sometimes increased by inadequate intervention at the most favorable time.

The patients with operable malignant disease may be divided into the following groups:

1 Clinically malignant cases in which clinical symptoms have developed which indicate malignancy as definitely as the microscope

2 Clinically benign in which the lesions exhibit none of the symptoms associated with malignancy the nature of the disease being revealed either at the operation or microscopically

3 The precancerous lesion in which undoubtedly the hope for the almost complete eradication of cancer rests on the recognition and complete eradication of the precancerous lesion whatever it may be

The final argument in favor of surgical treatment in the precancerous or in the very early malignant stage is that the expense of treatment is little either to the hospital or to the patient and the period of disability is short

ROBERT H IVI

Teuffel R Kraurosis and Canceroid (Kraurosis und Carcinom) Z f h f G k 93 xxx 998
By Zentralbl f d ges Gynaek u Geb t h d Grenzgeb

The author presents a brief histological description of a case of kraurosis and canceroid in which the inflammatory process of the kraurosis brought about a marked decrease in the amount of carcinoma tissue and a profuse pearl formation. The author considers this change analogous to that seen after radiotherapeutic treatment

Va MEA

Musgrave W E and Sloan A G Acute Malignant Glanders in Man Ph pp J Sc 93
v 385 By Surg Gynec & Obst

The authors report two cases and abstract two previously reported cases of glanders in man which ran a rapidly fatal course. The diagnosis was established beyond question on a doubt in all cases. The disease is characterized by a general infection with the bacillus mallei. The period of incubation is unknown. The onset is usually sudden with a chill or chilly sensations with fever and indefinite aching pains similar to those of dengue. The joints rapidly become swollen and painful and go on to suppuration. The lymphatic glands also become swollen and painful and in case the patient lives long enough break down and form open ulcers. The skin lesions which are quite characteristic usually begin to make their appearance four to seven days after the onset of the disease. The lesions at first simple superficial papules which rapidly enlarge become vesicles then pustules and finally break down to form an open ulcer. That the diagnosis which is relatively easy to make both clinically and culturally is frequently not made difficult and rarely during the early stages of the disease the authors attribute to the fact that the disease is so rare that it is not kept in mind as a possibility.

The diseases most often confused with glanders are dengue fever, cutaneous rheumatic fever and some skin diseases. The first should always be rec-

ognized by its characteristic blood picture. The second is more difficult to distinguish until joint suppuration or the characteristic skin lesions make the diagnosis of glanders clear. The pronounced constitutional symptoms in glanders should always serve to distinguish it from skin diseases. The prognosis in acute malignant glanders is bad and there is no known treatment that influences the course of the disease

BARNES BROOKS

SERA VACCINES AND FERMENTS

Ball C F Abderhalden's Serodiagnostics of Cancer and Pregnancy V 1 M J 193 cx 149
By Surg Gynec & Obst

Ball presents a review of the literature relating to the diagnosis of pregnancy by the Abderhalden technique with especial emphasis on the possibility of its application to the diagnosis of cancer. While believing that sufficient work has not been done to allow a positive statement he thinks that it is at least safe to say that there has been no test previously devised that runs so positive to a known condition of malignancy with so high a percentage of positive results further there is no test that runs so uniformly negative to all other conditions.

A review of the literature on the mostagmin reaction of Ascoli the Kelling hemolytic test and von Dungern's complement deviation test shows more favorable percentages in the diagnosis of malignancy with the Abderhalden serum test. To demonstrate the value of the Abderhalden test in diagnosing pregnancy the author presents abstracts of over two thousand cases reported by various observers.

In his own cases, using tissue from a lymphosarcoma involving the retroperitoneal glands with the sera of the patients, the author obtained positive results in three cases known to be malignant and negative results in two doubtful cases. He reports three cases having a double ferment reacting positively with both placental and tumor tissue, two parturients and one male with pyeloma of the bladder. Seven pregnant cases reacted positively with placental tissue negatively with the malignant tissue. With the exceptions noted above all the malignant cases gave a negative reaction with placental tissue.

He suggests the possibility of being able to differentiate the kind of tissues involved by obtaining reactions with the proteids from different forms of malignancy. Using a sarcoma proteid he obtained reactions differing from those obtained with a proteid prepared from an epithelioma of the cervix. With the latter pregnant conditions would apparently give the malignancy reaction in cases known not to be malignant probably because of the ability of the pregnant ferment to digest uterine tissue as well as placental tissue.

He emphasizes (1) the desirability of always working with at least two kinds of tissue, one of these necessarily to be carefully prepared placenta

(2) the necessity of designating the kind of material used in all experimental work when other than placental tissue is used (3) the advisability of associating this with experimental tumor transplantations in animals and (4) further experimental work directed toward eliminating if possible all sources of error in the present technique

D H BORD

Parce R M: The Scientific Basis for Vaccine Therapy. *J Am Med Ass* 1913 11 2115

By S R Gyne & Obst

Vaccine gives a very generalized argument for the placing of prophylactic vaccination for infectious diseases on a scientific basis. He argues in a similar fashion that although curative vaccination has no sound scientific basis the general principles of immunity and clinical observation offer a plausible explanation for the treatment of chronic infections and carriers. He shows that the curative vaccination has no basis in the acute self limited diseases and is purely experimental and that the only proper method of vaccination is with the autogenous variety of vaccines.

To place therapeutic vaccination on a scientific basis it is necessary to study the individual and his infection and the author suggests that it would be well for the clinical worker with vaccines to remember the assertion of Wright that the man to check off the clinician and aid him in his investigation should be a man who has spent years of study in mastering the technique and learning how to make the vaccines where to look for the microbes how to isolate them and most of all he should be a man with sufficient experience and ability to apply all these things.

Do ID GOSNOV

BLOOD

Götzony I: The Serologic Difference Between Maternal and Fetal Blood Serum (Über serologische Unterschiede zwischen mütterlichem und fötalem Blutsrum) *Ztschr f Imm u Forsch* 1913 7

By Zentralbl f d ges Cytol u Geburtsh u d Gyn u Ob

In common with Sachs Rytzsch Kopf and others Götzony found that the fetal serum of the guinea pig did not contain either a hemolytic or a bactericidal complement. In fetal rabbit and pig sera the hemolytic complement was lacking but these sera showed almost as much bactericidal strength as the maternal serum. This shows that in rabbit serum different substances cause hemolysis and destruction of bacteria.

II WU

Voegtlin G and Macht D I: Isolation of a New Vasoconstrictor Substance from the Blood and the Adrenal Cortex. Presence of the Substance in the Blood and Its Action on the Cardiovascular Apparatus. *J Am Med Ass* 1913 11 36

By S R Gyne & Obst

The authors have isolated a new vasoconstrictor substance from the blood. The work was suggested

by some investigations on deheparized dogs, some years ago where the Laker's fistula had been used to exclude the liver. Dogs so treated manifested a train of symptoms resembling those of poisoning by the digitalis like bodies i.e. high blood pressure marked cardiac stimulation and final stoppage of the heart in systole.

From defibrinated human ox and pig blood and serum they isolated by a process of their own a white crystalline substance. This substance is sparingly soluble in water freely soluble in chloroform and acetone hot ethyl alcohol and other organic solvents.

The study of the action of this substance on the blood vessels and hearts of warm and cold blooded animals showed that 1/300 mg produced a marked effect of contraction of the vessels of the frog's hind legs by Trendelenburg's method and of the rabbit's ear by the method of Picquess. Small quantities acted on the hearts of the frog, terrapin and toad in a manner similar to the digitalis bodies there was first marked increase in force and contraction of the ventricle with increase of tone and volume output of heart muscle. Strong solutions produced irregularity of the beat marked slowing and tendency to systolic standstill with decreased volume output during this period. This effect was more apparent in injured hearts or those known to be in poor condition at the beginning of the experiment.

It was found that the quantity of extract corresponding to one ccm of human blood when diluted with 500 ccm of Locke's solution was sufficient to produce a very marked constriction of the rabbit's blood vessels.

The substance was also isolated from blood plasma and red cells. The recent studies of O'Connor Stewart Zucker and others have shown conclusively that systemic blood with the exception of blood from the renal vein does not contain epinephrin and other constrictor substances in the blood have been suggested.

The authors conclude after a study of its physical chemical and physiological properties, that it is a substance with different pharmacological properties than that of epinephrin.

The method of preparation definitely excludes its being epinephrin. A sufficient quantity has not been isolated by them to make a complete chemical analysis. The physical and chemical properties so far determined for the body seem to point to its relation to histamine on one hand and cortex of adrenals on the other.

A study of adrenal cortex extract was made and its pharmacological action was identical in so far as it was studied with the crystalline body described as having been isolated from blood and sera. As none of the physiological properties of the substance were changed by boiling with weak alkalis the possibility of it being epinephrin was positively excluded the latter being a product of the suprarenal gland. The work is of especial interest as the func-

tion of the adrenal cortex has been a mystery so far
DOVARD GORDON

Le Calé J: Changes in the Blood after Constriction of a Limb (Des modifications du sang après constriction d'un membre) *J d Physiol et d Pathol* 93 27

By Journal de Chirurgie

Le Calé has done experimental work on the rabbit and has studied the changes in the blood after constriction of a limb or part of a limb in the human subject as well.

He chose a region rich in nerve fibers, where veins and lymphatics were abundant and where the blood channels were sufficiently deeply buried in the muscular masses so that they were not compressed by the ligature and permitted the access of blood. All these conditions were present in the calf. The ligature was placed a little above the protuberance of the gastrocnemius. It should be tied tight enough so that the object feels engorgement and tingling but not too tight for the pulsation in the foot vessels should not be cut off. The blood is taken from the arm under the usual conditions both before and after the application of the ligature.

This constriction of the calf taken as an example produces local and general effects. The local effects are insignificant: a little edema and a little turgescence of the vessels of the region which assumes a rosy or even a slightly cyanotic color. The general effects on the blood and on the circulation are very interesting. The blood is dehydrated and becomes so concentrated that it will hardly flow through the needle. This property is particularly marked after a half hour of constriction. Ten minutes after the ligature is removed the blood flows freely through the needle again. As a result of the dehydration which comes from a transudation of a part of the serum into the interstitial spaces the pressure is lowered but rises again abruptly even to above the normal after the experiment. Dehydration is proved by the fact that the albumin increases very much under the influence of the ligature. The chlorides however pass with the water into the interstitial spaces so that the chloride content of the blood is decreased which is a fact of great importance. As soon as the ligature is removed the chlorides pass into the blood again.

These experimental facts can be applied to human pathology. As the constriction conduces to coagulation of the blood it may be used as a means of combating hemorrhage.

The removal of the ligature causes the substances in the interstitial spaces to flow back into the blood current therefore bleeding with the object of relieving intoxication should be performed after its removal. As constriction of a limb decreases pressure it is of service in cardiac cases.

The decrease and increase in the chlorides on application and removal of the ligature explain the good results obtained in cases of Bright's disease.

PIERRE CRIST

Ottenberg R and Kaliski D J: Accidents in Transfusion and Their Prevention by Preliminary Blood Examination Based on an Experience of One Hundred Twenty Eight Transfusions *J Am Med Ass* 1913 1: 2138

By Surg. Gynec. & Obst.

The authors insist that accidents in transfusion due to the occurrence of hemolysis or agglutination of the donor's blood by the patient's serum or vice versa can be absolutely excluded by careful preliminary blood tests. They have encountered 17 cases whose blood was actively hemolytic for several different donors. Non-hemolytic donors were eventually found in all but two in these hemolytic transfusions were tried and in one a severe but not fatal hematuria resulted. The other case died apparently from a phagocytosis of red cells by leucocytes in the circulating blood. They encountered three cases of reversed hemolysis that is hemolysis of patient's cells by donor's serum. They found three transfusions in which the serum of the patient was agglutinative to the cells of the donor, two were fatal with phagocytosis of red cells and one had severe hematuria. Over 30 control observations on non-agglutinative and non-hemolytic transfusions failed to show any phagocytosis. The authors have seen four transfusions in which the serum of the donor was agglutinative to the cells of the patient without untoward effects. Febrile reactions occurred in about 10 per cent of the transfusions, likewise urticaria and other skin eruptions irrespective of hemolysis or agglutination.

TORR W. HARRIS

BLOOD AND LYMPH VESSELS

Von Heuss R: Ambulatory Treatment of Varicose Veins and Ulcers of the Leg with Adhesive Plaster Bandages (Die ambulante Behandlung des arthrosen Symptomenkomplexes mit adhärenten des Venen- und Lymphgefäßes mit der Klebbinde) *München med Wochenschr* 93 1: 272

By Zentralblatt für Chirurgie

Von Heuss has tested the treatment of varicose veins, dermatoses and ulcerations of the leg with adhesive bandage on 350 cases for a number of years and recommends it very warmly. The effect of the bandage is due to continuous methodical pressure and also to the therapeutic action of the adhesive material. The bandage material is elastic, the adhesive matter does not irritate the skin even when it is left on for long periods of time. If there is much secretion from the surface of the ulcers, the bandage can be left in position; it does not need to be taken off so warm baths etc. and is therefore very economical. The active medicinal component of the adhesive material is a combination of lead in the form of litharge. As a result of the treatment, edema and varices disappear, dermatoses heal, all sorts of ulcers even indolent ulcers with indurated edges are covered over with skin more or less quickly. The treatment is ambulatory, the

patients can be out of bed and with care can go about their work. The results depend on a careful carrying out of the directions given in the article

Dr. Anva

Burdenko N: Ligation of the Portal Vein (Zur Frage der Unterbindung der Vena portae) *Deutsche Zeitschr f Ch* 1913 cxxi 95

By Zentralbl f d ges. Chir u. Grenzgeb

Three times in the course of the last five years the author has had the opportunity of observing the physiology of the portal vein in the human subject. First in a case of gunshot injury of the liver the portal vein was compressed for only a short time during the operation. A severe reaction took place the pulse immediately became thread like the pupils dilated and death took place after eighteen hours. Second, in a case of extirpation of the kidney the inferior vena cava was severed. As an immediate union of the ends of the vessel was not possible the cava was sewed into the portal vein and the latter compressed for half an hour. The pulse became weak, rose to 120 and then so high that it could not be counted the pupils dilated and the respiration was rapid. The intestine and all the other organs in the region of the root of the portal vein were very much congested and the spleen was distended. Death resulted after six hours. Third in the case of a young man who had been sick for years it was decided that the swollen intra abdominal lymph glands were the cause of the ascites and they were removed. They were found to be firmly adherent to the portal vein and the vessel wall was torn in such a way that suture was impossible. As the collateral circulation was well developed the vessel was ligated and the patient recovered.

Experimental work by physiologists has shown that the portal vein can be ligated without danger to the life of the animal if there has previously been a series of firm artificial adhesions established between the omentum and intestines and the abdominal wall. The author experimented with six animals completely closing the portal vein not less than eight days after the preceding operation and found that the animals died after fifteen minutes at the most. He believes that the nervous system plays a predominant part in the production of the effect of ligation of the portal vein, and particularly a paralysis of the peripheral ganglia. He concludes from his experiments that a compression of the hepatoduodenal ligament and the portal vein for a greater or less time shows technical and anatomical results that correspond to the teachings of physiology. *Coccy*

Oliver J: The Relation of Hodgkin's Disease to Lymphosarcoma and Endothelioma. *J Med Resur* 9 3 xxxi 209 By Surg Gynec & Obst

In this article the author again raises the question as to the nature of Hodgkin's disease whether it is a granulomatous or neoplastic process. He believes that a comparison of Hodgkin's disease with the two universally admitted neoplastic affections of

the lymph glands will throw some light on the nature of the former condition and in this article he describes in detail the two affections, lymphosarcoma and endothelioma, of whose neoplastic nature he believes there can be no doubt, and compares these findings with those of Hodgkin's disease.

He attempts to show that all constitute a series of neoplastic processes of the lymphatic glands which differ not so much qualitatively as quantitatively. The material at his disposal was that collected in the Pathological Laboratory of Cooper Medical College and the Leland Stanford Junior University during the past 15 years, and consisted of 22 cases of lymphosarcoma, 11 cases of Hodgkin's disease and 13 endotheliomata.

He first describes the histological processes presented by the various diseases and reports in detail the findings in 7 cases of lymphosarcoma, 9 cases of endothelioma, and 5 cases of Hodgkin's disease. A few striking points of similarity he calls particular attention to in reviewing the facts. First that although not so regular in appearance the presence of eosinophiles and giant endothelial cells is found in the majority of the frankly neoplastic sarcoma. This fact he believes to be of more than casual significance. A still more striking appearance which he found is that of fibrous connective-tissue formation not only in advance of the invading process but in the substance of the tumor mass itself. As he states the formation of fibrous connective tissue has been one of the main arguments for the granulomatous inflammatory theory of Hodgkin's disease and its occurrence in lymphosarcoma has been denied by many writers.

In the author's present series fibrous connective-tissue formation and the related occurrence of plasma cells is evident in all the specimens though it is not so marked in the more malignant cases. He concludes his study as follows:

1. Hodgkin's disease must be classed with the lymphosarcoma and endotheliomata of the lymph glands as a neoplastic process. The following facts compel this conclusion:

- (a) The similarity and in cases identity of the histological process.
- (b) The early and constant development of malignancy (invasion of capsule and veins).
- (c) The ultimate formation of true metastases, partly at least by the blood stream.

2. The endotheliomata of the lymph glands are of relatively frequent occurrence and may be classed as endothelioma medullare, endothelioma scirrhosum and endothelioma cylindricum (Wingradow) or better by the classification of Ewing as diffuse alveolar and pervascular. *George E. Bailey*

POISONS

Churchman J W: Cutaneous Manifestations of Septicæmia. *Am J M S* 9 3 cxi 833 By Surg Gynec & Obst

The author discusses the predilection of some infections for some special part of the body and the

comparative immunity of other parts from them pointing out that we must look for some other explanation than a rich or poor blood supply. Recent observations with aniline dyes have shown very sensitive selective actions and have suggested that chemotropism may play a part in these processes.

The following case is reported. A Pole 9 years of age had sustained a ragged lacerated scalp wound one week before admission to the hospital. The wound had been sutured by a physician following which the patient went on a week drunk and when sent to the hospital had a temperature of 102.5°. The edges of the wound were found to be separated by necrotic tissue and the skull which could be explored by the finger was not fractured. Resonance on the right side of the back and occiput was impaired and coarse musical rales were heard throughout the right side.

The temperature ranged around 102° a delirium soon developed and consolidation of the whole right lung was soon apparent. Cutaneous lesion which were blebs upon hyperæmic bases and filled with a clear fluid which soon became hæmorrhagic quickly developed upon the hands and feet. They were intracutaneous one on a little finger looked as if a finger-cot had been drawn over the finger with a sharp line of demarcation between the bleb and normal skin.

The patient died of a streptococcal septicæmia with double pneumonia seventy-two hours after admission. The organisms were isolated in pure culture from the blood and from the fluid of the blebs.

The author further differentiates the lesions of a septicæmia from the erythematous lesion, the popular rashes, the urticarial, the hæmorrhagic group, the vesicles, pustules and pemphigoid eruptions and herpes.

H. A. PORTS

SURGICAL THERAPEUTICS

Barker L. F. and Gibbs J. H.: On the Treatment of Leukæmia with Benzol. *B. J. J. H.* 1934, 34, 363.

By Surg. Gynec. & Obst.

In July 1912 Von Koranyi reported the first case of splenomyelogenous leukæmia in the treatment of which benzol was used. He states that he was led to the institution of this therapy through the pharmacological effects of the chemical as illustrated in Selliger's experiments, i.e., an inhibition of the white blood corpuscle forming organs and a neutral effect or a stimulant action upon the production of red blood cells and hæmoglobin.

From his experience with the drug Von Koranyi formulated the following conclusions:

Benzol first tends to increase the white blood cells but shortly leads to an improvement in the leukæmic condition. The fall in the white blood count usually begins at the end of the second week or at the beginning of the third week of therapy. The decrease at first being slow and then quite rapid.

The general condition of the patient is improved just as with X-rays and other forms of treatment.

2. Benzol acts more slowly than X-rays but some patients improve under its administration who do not respond to the usual therapy. Previous or concomitant applications of the X-ray seem to hasten the action of the new drug.

3. The drug can be safely given in doses of 4 gm. daily and its administration with equal parts of olive oil seems to lessen the tendency to produce unpleasant symptoms such as heartburn, eructations and vertigo.

4. Benzol seems to be efficacious in the treatment of polycythæmia with splenic enlargement, one case showing a fall in red blood cells from 9,000,000 to 6,700,000 after three weeks of treatment.

The rapid accumulation of new data on this subject has tended to confirm in almost every detail Von Koranyi's original statements. Billings of Chicago has recently reported five cases in which he used benzol four of his patients suffered from myelogenous leukæmia, one of them from lymphatic leukæmia. He notes essentially the same changes as reported by Von Koranyi but draws attention to the entire disappearance of myelocytes from the blood in one of his patients whose white count had been reduced from 191,000 to 3,600. Barker and Gibbs report a case of splenomyelogenous leukæmia in a white male 57 years old that responded in the usual manner to benzol therapy. The symptoms which he considered as due to the splenomyelogenous leukæmia began approximately two months before his entrance to the hospital. They consisted of extreme nervousness, anorexia, insomnia and marked depression with feelings of general inefficiency. The physical examination was entirely negative. The blood picture showed:

Red blood cells	3,672,000
White blood cells	345,000
Hb (Sahl)	65%

Benzol was administered beginning with 2 gm. daily the dose being increased 1 gm. each day until it had reached 5 gm. and was continued in that quantity for about ten weeks. Five days after the treatment was started the white blood cells rose to 210,000 then they began to fall and after twelve weeks the white count had fallen to 10,200. Approximately seven weeks after the benzol treatment was discontinued his blood count was as follows:

Red blood cells	4,096,000
White blood cells	6,800
Hb (Sahl)	76%

GEORGE E. BELLBY

Braunstein A.: Chemotherapeutische Behandlung von Cancer mit Selenium und Iodometazolin. *Blue* (Chemotherapeutische Versuche an Krebskrankheiten. Seleniodometazolin). *Berlin* 1934, 34, 363.

By Zentralblatt für Gynäk. Geburtsh. d. Grenzgeb. The author reports favorable results in the treatment of cancer with intravenous injections of

Haendly P: Anatomical Findings in Carcinoma Treated with Mesothorium and Röntgen Rays (Anatomische Befunde bei Mesothorium und Röntgenstrahlen behandelten Carcinomen) *Arch f Gynäk* 1913 c 49

By Zentralbl f d ges (n)k u Geburtsh d Grenzgeb

Bumm and the author made a series of excisions for microscopical examination and found to an increasing degree as the length of the treatment increased decrease in the size of the carcinoma destruction of carcinoma cells sclerosis of the connective tissue and changes in the vessels. They report the microscopical picture in five cases that had been treated by deep irradiation. Three of the specimens were obtained by operation two post mortem. The microscopical findings were as follows:

In the cases irradiated before operation there were superficial necrosis and marked changes in the carcinoma cells but the action had not been uniform as cells in the process of invagination lay side by side with living and active ones. There was no effect on the hypogastric glands. The post mortem specimens had been more thoroughly irradiated but in spite of that there were still cell nests in the walls of the cavities. These cells were not active but the surrounding tissue was so severely injured that judgment cannot be passed on the effects of deep irradiation.

Haendly comes to the conclusion that deep irradiation is not uniform and not sufficient to thoroughly destroy deep seated carcinomata by extreme filtration it may be possible to accomplish this without injuring the healthy tissue.

He x v

Ranzl E, Schüller H and Spirmann R: Radium Treatment of Malignant Tumors (Erfahrungen über Rad unbehandlung der malignen Tumoren) *Mitt H B A A* 9 3 21 65

By Zentralbl f d ges Ch r u Grenzgeb

The authors worked first for four years with 0 mg radium bromide but for the past seven months with 225 mg radium 10 mg mesothorium and partly with rademant representing 150 mg radium. They used increasing doses and thorough filtration with lead gold silver and platinum filters 0.5 to 2 mm thick and secondary filtration through rubber and gutta percha. The maximum dose is 22,000 milligram hours. The radium was sometimes laid upon the tumor sometimes buried in it generally near the periphery large tumors were previously reduced as much as possible. Only inoperable tumors were treated that had been demonstrated histologically to be malignant. There were 53 cases all together.

The first group included six cases that had had apparently radical operations performed upon them. They were treated palliatively but there were three extensive recurrences within a short time. Relatively small doses were given on account of the danger of burning.

The second group included 47 cases which had not been operated on and which were treated therapeutically. Ten of them withdrew prematurely from the treatment one of them a case of skin carcinoma of the hand subsequently had an amputation performed. Of the remaining 36 seven soon showed that they were not being benefited one a case of carcinoma of the breast that was taking 10,750 milligram hours of radium six died during the treatment — one a case of spindle-celled sarcoma of the pleura receiving 12,380 milligram hours of radium died after the tenth treatment of bleeding from erosions and mediastinitis. In six cases in spite of the use of large doses of radium and mesothorium only a slight local effect was observed or with a favorable local effect a marked change for the worse in the general condition. In three cases the tumors showed a decided growth while under treatment in three cases carcinoma nodules disappeared under radium treatment, a recurrent tumor of the tongue a basal-celled carcinoma of the skin of the nose and a tumor of the tongue in which glandular metastases were afterward extirpated. The doses in these cases were 99,324 and 1640 milligram hours.

In eleven cases in which the treatment is not yet finished, a markedly favorable effect of the radium rays has been observed although the time is yet too short for a decisive judgment. An electric effect of the radium on the tumor cells has not been observed. They are destroyed sooner because being degenerated cells they succumb more quickly to any form of trauma. Epithelium is more sensitive than connective tissue there were burns of the mucous membrane of the mouth on irradiation from outside.

In deep seated tumors the dangers and injuries of radium treatment from destruction of tissue cannot be controlled with any degree of certainty therefore these tumors should always be radically removed. There is danger of perforation in irradiating internal organs and danger of hemorrhage thus occurring once in the carotid which was shown a histological examination to be free from tumor. Sometimes large doses seem to stimulate the development of carcinoma and probably in irradiation from the center the radium has a stimulatory effect on the periphery because of being weakened by distance. Intense irradiation always lead to marked disturbance in the general condition, such a loss of appetite dullness and headache. Irradiation on the neck always caused vomiting. The wound reaction of irradiated tumors caused radium burn on the skin which had not been irradiated directly and also superficial necrosis of the epidermis. The results of the treatment thus far are very unsatisfactory in the three cases out of the 53 where the tumor disappeared the time is yet too short to be sure of permanent recovery. In inoperable tumors (10 of 36) radium may cause a decided improvement. The authors believe that radium has a certain value as an auxiliary means of

avoiding recurrence in post operative treatment but they do not think the x-ray treatment of operable tumors is justified. The use of an agent that has only a local effect in treating operable carcinoma controversies well founded scientific principles in the treatment of malignant tumors.

M. GRAY

Latzko, W. and Schüller H.: Radium Treatment of Cancer (*Rad. m. d. Behandlung des Krebses*). H. 11. H. 4. J. 1913. 25. 1541.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäk.

The author gives a description of seven cases of malignant tumors of the genital organs which were treated with radium. Generally only small doses were used—20 to 60 mg. radium. In three cases there was no noticeable effect on the size of the tumor. There was almost always an improvement in the general condition. In a case of carcinoma of the ovary as large as a man's fist the tumor disappeared almost entirely in a relatively short time.

The author makes a series of excisions for examination after the radium treatments and confirmed the microscopic findings of other authors as follows: (1) Inflammation and necrosis of the surface; (2) degeneration of the tumor cells giving a favorable result in absorption; (3) increase in the connective tissue and changes in the epithelium. At the same point the radium acts as a stimulant also as that as a poison to the cells.

Operable cases should be treated without operation only when the special circumstances justify it. make the probability of operative mortality so high that the danger of leaving the operation by radium treatment seems less. In inoperable cases radium treatment can effect improvements hitherto undreamed of. In accordance with reliable reports from the literature bordering on complete recovery. To attain such results as large doses as possible must be used for as long a time as possible.

H. SCH

Stiecker A.: Radium and Mesothorium Treatment. Their Theoretical Principles and Practical Use in Treatment (*Rad. m. d. Mesothoriumstrahlung. Ihre theoretischen Grundlagen und ihre praktische Anwendung in der Heilpraxis*). Strahlenther. p. 93.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäk.

The x-ray has since been said can be compared directly with roentgen rays. They are distinguished from them by being 4 times as hard by arising in the capillary ionization and by the kind of secondary rays they form from the fact that the roentgen rays are produced at the

anticathode by cathodal rays and that the γ rays always appear in association with β rays we may probably conclude that the γ rays also owe their origin to the β rays. This, however, has not been proven experimentally.

Weak irradiation causes only partial injury to the tissues but this may lead to a progressive disturbance in metabolism which may eventually end in the death of the cell. If the cell does not die it at least becomes sick, as is manifested by the weakness in its power of regeneration. Radium and roentgen rays heal slowly the first evidence of injury in the skin being hyperemia which appears early or late according to the strength of the irradiation. But even if no erythema appears processes may be taking place in the cells of the vessels that only become manifest after weeks or even months. The endothelial cells of the vessels are only slightly differentiated are embryonic in character and are more sensitive than the skin. Sparing the skin in deep irradiation by filtering the rays does not insure that the much delayed late reaction will not take place because of injury to the vessels.

Only a few observations have been published in regard to the absorptive capacity of individual tissues but it is certain that pathological tissues absorb the radium and mesothorium rays more than normal ones. This gives rise to the so-called selective effect of the rays which is a matter of fact does not exist. The effect extends to the normal tissues also. Pathological tissues may become necrosed or may be replaced by connective tissue by a process of chronic interstitial inflammation. Pathological as well as normal tissues show different degrees of sensitivity to the rays. Leukemic tissue and warts are the two extremes. Carcinoma at its tissue moderately sensitive and myomatous tissue very slightly so. The effect of the rays is always due to a primary injury to the cells but sound tissues are able to protect themselves by forming new cells to replace the ones destroyed while pathological tissues cannot replace themselves.

The aim of radiotherapy must be primary cell death this can only be attained by strong preparation of radium and mesothorium preparations sufficient to requirement. Both are suitable for treatment if used in sufficient quantities they must have an activity that corresponds to that of 50 mg. pure radium bromide. The dosage is generally measured in milligram hours for treatment of a carcinoma of the rectum a dose of 4000 milligram hours is necessary. The dose is increased when strong filters are used so that only the γ rays are available. In very intense irradiation severe disturbances of the general health may occur.

DANIELS

GYNECOLOGY

UTERUS

Engström O: Malignant Chorio-Epithelioma
(Beobachtungen über Chorioncarcinom) Jf 14
d. gynäk. Kl. 4 1913 s. 175

By Zentralbl. f. d. ges. Chyng. u. Geburtsh. 4 d. Centralbl.

The author gives detailed histories of five cases of malignant chorio-epithelioma from his clinic.

The first case was a typical metastatic chorio-epithelioma in the vagina with no tumor in the uterus or either of the tubes. Extirpation was performed in apparently normal tissue but there was prompt recurrence. In the two following months the operation was repeated twice; death resulted four and three quarters months after the first operation. The tumor in the vagina may be regarded as a metastasis from a neoplasm that developed primarily in the placenta and was discharged with it from the uterus or we may assume that cells from a proliferating chorio-epithelioma penetrating the uterine veins, were torn off and reached the vaginal veins where they set up malignant proliferation.

In the second case there was an atypical chorio-epithelioma in the vagina in conjunction with a cystic mole in the body of the uterus which had eaten far into the wall of the uterus and in some places had broken through the serous coat. In the lumen of the blood vessels were found Langerhans cells and masses of syncytium of varying sizes. The metastases of ectodermal elements in the wall of the vagina in this case shows that a cystic mole may give rise to a chorio-epithelioma. A supravaginal amputation of the uterus was done and three weeks later the vaginal tumor was excised. Fifteen months later the patient was completely well.

The third case was a typical advanced chorio-epithelioma in a very much enlarged uterus with metastases in the vagina and pelvis. Death resulted three hours after total extirpation through the vagina.

The total vaginal extirpation of a typical chorio-epithelioma with metastases in the fibria majora, the liver and the lung following a delivery at normal term was apparently successful but the patient died one day after the operation.

Another patient had a focal chorio-epithelioma with metastases in the vagina, the pelvis, tissues of the liver and the lungs seven months after the delivery of a mole curettage and a second one two months later. Ten months later abdominal extirpation of the uterus was done. The patient died soon afterwards on account of her already exhausted condition.

Kelly H. A. and Neel J. C.: Cauterization of Inoperable Carcinoma of the Cervix of the Uterus. R. I. J. Obst. Gynec. & Surg. 1913
By Surg. Gynec. & Obst.

The results which the authors obtained by a thorough cauterization of an advanced carcinoma of the cervix of the uterus which later made possible a radical abdominal operation seemed to them to justify a detailed report of a case.

Briefly the case was one of advanced carcinoma of the cervix of the uterus in which the large masses of carcinomatous tissue could be torn away with the fingers. It had extended quite out to the pelvic wall on the left side. On account of the apparent extent of the growth and wide involvement a radical operation was at first considered inadvisable to even attempt. Therefore under gas anesthesia a deep cauterization was done on all sides of the growth. About two weeks later such a marked improvement in the condition was noted that a radical abdominal operation was made possible.

This case seems to demonstrate very conclusively that a large part of the apparent invasion and induration was due to the inflammation which attended the extensive ulceration and the authors conclude that:

1. The extensive radical abdominal operation offers the greatest hope of absolute cure in patients suffering from carcinoma of the cervix of the uterus.

2. The percentage of operability has gradually increased with the adoption of the radical abdominal operation.

3. An exploratory operation is occasionally necessary to determine whether or not the radical operation is to be attempted.

4. Pelvic induration may be due to the following causes: (a) To direct extension of the new growth through the cervix into the broad ligament on either side; (b) to a secondary inflammatory reaction; (c) to an intense pelvic peritonitis in which one or both broad ligaments hence the immobility of the cervix is not an infallible sign in determining whether or not a case is operable.

5. In advanced cases of carcinoma of the cervix a preliminary curettage and cauterization is advisable for the following reasons: (1) A large portion of the final new growth may be removed through the vagina; (2) It is an important procedure in the disinfection of the vaginal field; (3) The induration in the broad ligaments due to secondary inflammatory action may be relieved causing the

new growth to become circumscribed and rendering a previously immobile cervix mobile

GEORGE L. DEILBY

Barrett G. W. The Carcinoma Question as It Pertains to the Uterus *Med Rec* 931 xiv
109 By Surg Gynec & Obst

In discuss the practical side of carcinoma as it relates to the uterus the author expresses the opinion that carcinoma represents a tissue reaction against disease the epithelial proliferation being a tissue reaction against the infectious parasite Hence carcinoma is to be viewed as a local manifestation caused by mechanical thermic or actinic irritation which serves as a means of introducing some micro organism yet unknown The public and physicians should be educated to the recognition and treatment of benign conditions which constitute what the author call precancerous conditions such as erosions, eversion, cystic degenerations, fibroids, polypus etc

The author favors the abdominal operation for carcinoma of the uterus and carries it out in the modern approved fashion Where total removal is impossible he relieves the pain the hemorrhage and the discharge by thorough cauterization with the ordinary soldering iron Acetone is advised for temporary relief The author lays stress on three points (1) The eradication of conditions which if untreated might result in carcinoma (2) Early radical removal when carcinoma has been diagnosed (3) The treatment of advanced inoperable carcinoma by repeated cauterizations

S. W. BANDLER

Haendly P. The Effect of Mesothorium and Röntgen Rays on Carcinoma of the Uterus and the Ovaries (Die Wirkung der Mesothorium und Röntgenstrahlen auf das Carcinom des Uterus und der Ovarien) *Strahlentherapie* 93 300
By Zentralblatt des Gynäk. u. Geb. u. d. Grenzgeb.

The author makes the following observations as the result of a thorough histopathological examination of cancer tissue of the uterus and ovaries that had been subjected to irradiation A radiant treatment of two or three weeks duration has a direct elective effect on cancer tissue (contrary to Exner's opinion) consisting in a primary injury of the cancer cells which leads to a disturbance in the growth of the cells lack of mitosis and giant cell formation and to a certain degree to changes in the character of the cells (flat scaly epithelium) and finally by karyolysis and disappearance of the non nucleated masses of protoplasm to complete destruction of the cells

The connective tissue shows a new growth to replace the destroyed carcinoma cells This new formed connective tissue becomes sclerotic and degenerates just as the rest of the connective tissue the smooth muscle trophoblasts and disappears almost entirely and some of the muscle fibers show hyaline degeneration In the ovary the primary follicles

are completely destroyed and the vessels show hyaline degeneration of the ad intima and media the latter is calcified here and there From proliferation of the intima there is obliteration of numerous vessels the elastic fibers swell and form clumps and the plasma cells and eosinophile leucocytes disappear with the increasing sclerosis and hyaline degeneration The clinical results of these changes remain to be seen

DOAN

P to T: Clinical and Histological Discussion of the Treatment of Cancer of the Uterus by Wertheim's Operation (Klinische und pathologisch histologische Beobachtungen über die Heilung des Gebärmutterkrebses mittels der Wertheimschen Operation) *Virchow's Arch. f. path. Anat. etc.* Berl. 1913 ccc 470
By Zentralblatt des Gynäk. u. Geb. u. d. Grenzgeb.

The author reports 100 cases operated on by Wertheim's method 29 mild and 71 severe cases Those cases are designated as mild in which the parametrium does not show any great degree of resistance the mobility of the uterus is not much altered and the general condition is good In adpositio myodegeneration arteriosclerosis etc the vaginal operation was performed

Those cases are called severe in which a carcinomatous crater is formed in which the cancer has invaded the vagina and those in which the parametrium at least on one side is diffusely infiltrated as far as the pelvic wall In these cases the uterus was not movable or only slightly so and the carcinoma had not involved the bladder and rectum Sixty three per cent of the cases were operable The results were Primary mortality 14 (1 mild 13 severe cases) free from recurrence for 5 years 10 (6 mild 4 severe) free from recurrence for 3 to 4 years 15 (5 mild 10 severe) free from recurrence for 1 to 2 years 3 (2 mild 1 severe) recurrences, 23 (4 mild 19 severe) dead without local recurrence 13 (3 mild 10 severe) No information could be obtained in regard to 20

These cases histologically confirmed the fact that parametrium which clinically was very hard was frequently not carcinomatous but showed only inflammatory infiltration moreover that in beginning carcinoma where the parametrium was quite soft carcinoma could be demonstrated microscopically or that even if the parametrium was free carcinomatous glands were found This explains the recurrence in clinically mild cases and the recovery of very severe ones Since radical removal of carcinomatous glands is not possible the chief emphasis should be laid on the radical removal of the tissue of the parametrium and vagina until sound tissue is reached

ADOLPH

Geist S. H. A Contribution to the Histogenesis of Sarcomatous Change in Uterine Fibromyomata *Am. J. Obs. & Gynec.* N. Y. 931 u 33
By Surg Gynec & Obst

In a study of 25 cases of fibromyomata of the uterus a cervix Geist found sarcomata of various

types twelve times. In addition to the recognized sites for the origin of sarcomatous change the interstitial tissue of the myoma and the adventitia and endothelium of the lymph and blood vessels. Geist found that in two of his cases the sarcoma arose from the muscle fibers as has been described by Williams, Pick and others. N. SROTT HEWY.

Freund H. Etiology of Myoma of the Uterus (Zur Ätiologie der Uterusmyome). *Zisch f Geburtsh u Gynäk* 913 1922 75.
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb.

From a historical review of the subject it is evident from the age at which myoma of the uterus most frequently appears, viz. 30 to 50 years, that the functional activity of the uterus has a share in the formation of myoma; that menstruation and pregnancy are involved but that predisposition also plays a great part. Foetal incisions were first found by Freund in adenomyoma of the Wolffian duct and incisions originating from the endometrium were also demonstrated. These findings are also important in the etiology of leiomyoma. Most important of all however there is real foetal cell material that under some conditions can stimulate the muscular tissue to proliferation. There are epithelial inclusions also in spherical myomata.

Freund believes from a study of one of his cases that muscle proliferation in a beginning myoma causes the original elements connective tissue cells, capillaries and foetal epithelium to disappear. The points of insertion of the tubes and the internal wall of the uterus are especially liable because there is a more pronounced interlacing of the muscle fibers. Local and general predisposition contributes to the production of myoma. In 600 cases of myoma Freund found 36 of infantilism and 66 with some form of constitutional abnormality.

There is local predisposition in infantile uterus because of the defective uterine wall and the epithelial elements deep down in the muscular layers. The same is true of bicornuate uterus: the whole cavity must be laid bare by a lateral incision through the angles. Large ovaries (infantilism) also probably play a part from the functional disturbances that they create, the disorders of the heart may be regarded as a result of incomplete development of the heart. ROBERT SCHABERTZ.

Scott S. G. The Radiographic Appearances of Calcifying Fibroids. *Arch Radiol Ray* 19 3 25 216.
By Surg. Gynec. & Obst.

Scott calls attention to the necessity for caution in the interpretation of shadows in the regions of the kidneys, ureters or bladder. Though cases in which other shadows simulate calculi are rare we must nevertheless guard against error. In case of doubt means should be adopted to prove the shadow to be a calculus in the urinary tract such as collargol injection, opaque bougies and stereoscopic examinations. He adds to the long list of such shadows calcified fibroids of the uterus. Fibroids

are usually very large before they undergo calcareous changes and are liable to give bladder symptoms, thus adding to the difficulty of the diagnosis.

A good differential point is that vesical calculi are usually homogeneous, or consist of concentric layers while calcifying fibroids throw shadows of uneven density somewhat resembling calcareous glands. LEOPOLD JACKE.

Wiese F. W. Increase of Temperature During Menstruation in Pulmonary Tuberculosis (Über menstruelle Temperatursteigerungen bei Lungentuberkulose). *Bull Klin Tuberk* 9 3 35.
By Zentralbl f d ges Gynäk Geburtsh d Grenzgeb.

An increase in the temperature during the menstrual period is of diagnostic importance as it occurs most frequently in tuberculosis according to Kraus in two thirds of all cases. A premenstrual increase occurs in 40 per cent. Subfebrile temperatures up to 99° F are of significance for the initial stages. The increase in temperature before the menses is thought to be due to a progress of the pulmonary process which may be explained by hyperæmia of all the organs including the lungs. If the rise in temperature is only a slight one a resorption of old foci is concerned if high an exacerbation of inflammatory foci. The heat regulating center of the tuberculous patient is so labile that it is stimulated by exercise, psychic influences etc. Easily evitable persons react much more readily with an increase in temperature pulse rate and all metabolic processes. Intramenstrual elevations of temperature occur in 13 per cent usually on the first day and at times also continuing over the second. The endometrium is the portal of entrance for bacteria. Often the picture is that of a seriously diseased person. Cases of post menstrual elevations of temperature are rare amounting to about 2.4 per cent and are mostly subfebrile. They are a very unfavorable sign. In rare instances menstruation may exert a beneficial influence and cause a decrease in the temperature. The author observed intramenstrual decreases of temperature in 11.5 per cent of his patients who had previously had subfebrile and even febrile temperatures which continued afterwards to be afebrile. This fact might be explained by the improved circulation in the lungs during the menses. The time of the ripening of the follicles coincides with that of the increase in temperature. The increase in temperature either before during or after menstruation corresponds to the time of rupture of the follicle which may occur either before during or after the period. Menstruation in tuberculous women deserves particular attention as it may serve as an aid in diagnosis and even in prognosis. POWERS.

Giles A. E. Pessaries Versus Operations, in the Treatment of Uterine Displacements. *Clin J* 9 3 1 597.
By Surg. Gynec. & Obst.

The author defines the types of cases in which pessaries of value and distinguishes the forms

where operation is advisable. Cases in which there is a clear indication for pessary treatment include retroversion of the uterus following confinement, retroversion of the uterus in young nulliparous women when the symptoms are of recent origin, retroversion of the gravid uterus in the early months of pregnancy when the perineum is sufficiently good to support a ring, and cystocele with prolapse when the perineum is sound. The author takes it for granted that in all cases the retroversion must first be rectified before the pessary is introduced.

The cases in which there is a clear indication for operation include displacements with the uterus fixed by adhesions, displacements complicated by ovarian tumor or tubal disease, displacements complicated by fibroids, etc. Where retroversion is associated with a narrow upper vagina which will not bear a pessary and in those cases of prolapse of the uterus and vaginal walls where the perineum will not support a pessary, operation is indicated. In cases of displacement where the pessary is not well borne, especially in neurotic patients, operation is advised. Total procidentia yields only in operation. The author adds a third group of patients who are allowed to choose between the permanent wearing of a pessary and the freedom from the annoyances which may be associated from its use, which freedom can be gained by operative procedure. The operative mortality is practically nil. The operated cases show an improvement in the general condition of the patient in 90 per cent. Twelve per cent of the cases have gone through labor without complication and with a permanently good position of the uterus. The author believes that pessaries have their place but that improved technique and diminished mortality have led to the encroachment of surgical procedures on the domain of pessaries.

S. W. B. DOLAN

Zickel G: Incision Between the Spines for Alexander Adams Operation (Alexa der Adams mit Tuberculumschnitt). *Zentralbl f Gynäk* 913

By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

From its use in fifteen cases the author again recommends Liepmann's incision from one spine of the pubis to the other for the Alexander Adams operation. The view of the field of operation is at least as good as with the ordinary inguinal incision. The skin suture does not lie in the same plane as the fascia suture and it gives a better cosmetic result. It is covered with hair and can without difficulty be extended to make a Pfannenstiels incision.

KALB

Hilden, F. C. The Treatment of Sterility by the Dudley Reynolds Operation. *Am J Obst N* 913 1004. By Surg. Gynec. & Obst.

Hilden reports here the results of 43 cases of sterility and dysmenorrhea operated by Folak by a combination of the Reynolds and Dudley opera-

tions. Reports could be obtained from only 40 of the cases. All subjects were selected as free of complications that might jeopardize the intent of the operation. Of the 40 who reported their condition 33 were married and 8 were single. In 34 cases dysmenorrhea has been cured in 5 not relieved in 1 it was worse in 85 per cent of those suffering from dysmenorrhea were cured. In eight or 25 per cent of the 32 married cases sterility has been cured. All cases were operated during a period of 19 months preceding December 1912.

N. SPROAT HEANEY

ADNEXAL AND PERIUTERINE CONDITIONS

Puech P and Vanverts, J. The Role of the Corpus Luteum in the Fixation and Development of the Ovary in Woman (Du rôle du corps luteal dans la fixation et le développement de l'ovaire chez la femme). *Revue mens de gynéc d'obst et de péc* 9, 3, VII 336

By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

The authors tried to prove by the examination of human material Bornsch's theory based on von Frankel's experimental work, as to the important part played by the corpus luteum in the fixation and development of the ovum.

He collected from the literature 25 cases of ovariectomy during the first two months of pregnancy. In 20 cases both ovaries were removed in 5 cases the one containing the fresh corpus luteum. Abortion followed the operation in only 5 cases.

The authors conclude from this that the removal of the corpus luteum in the first two months of pregnancy does not necessarily result in the interruption of the pregnancy but that the corpus luteum does have some significance. For they found that abortion takes place more frequently in the first two months (25 per cent) than in the third (11 per cent) and fourth (12 per cent) moreover that it occurs more frequently with bilateral ovariectomy (25 per cent) than with unilateral ovariectomy (65 per cent) during the first two months.

KELFER

Ries E. Etiology of Periodic and Alternating Swelling of the Ovaries (Zur Ätiologie periodischer und alternierender Ovarialschwellungen). *Ztschr f Geburtsh Gynäk* 10, 3, LXII 313

By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

From two cases which he has carefully observed the author calls attention to a symptom-complex which he designates as periodical and alternating swelling of the ovaries. Clinically the condition is characterized by a feeling of fullness and weight in the abdomen midway between the two menstrual periods. Palpation during the attack shows that there is a swelling of the ovary of the side where the pain was felt. The swelling cannot be felt after menstruation is over. If the attacks are not especially severe the condition does not demand treatment but if the swelling persists in returning and causing the feeling of fullness and weight in the

After the beginning of the climacteric instead of the fine network there is a network of clumps of apparently swollen fibers. In the muscular layer the connective tissue fibers run concentrically around the lumen in a wave-like manner. They are connected directly with the connective tissue in the mucosa and with increasing age become denser so that after the beginning of the climacteric and even during the period of sexual activity regular bundles of connective tissue may be seen. In the subserous coat nothing can be seen but a tangle of connective tissue fibers of varying lengths around the numerous blood vessels growing denser with increasing age. The epithelium is separated from the subepithelial tissue by a limiting membrane. The author also examined the elastic tissue of the tube and found that elastic fibers are generally found before the age of sexual maturity only in the vessel walls and that they increase in number later. They are to be found as fine isolated fibers in the subserous and muscular layers. They generally decrease in number after the menopause.

Holzappel K.: *Technique of Tubal Sterilization* (Zur Technik der tubaren Sterilisation) *Ztschr f Geburt u Gynäk* 933 lxxv, 189.
By Zentralbl f d ges Gynäk u G b r t h d Grenzgeb

Holzappel proposes the following procedure for temporary sterilization.

After opening the abdomen the tube is caught with forceps a little to the lateral side of the middle and cut through on the median side of the forceps together with about 1 cm of the broad ligament. The uterine end of the tube not including any peritoneum is caught with sharp forceps and the peritoneum dissected off for about 2 cm. The knife generally has to be used to help in this in order to avoid injuring the peritoneum. The folds of the broad ligament are separated for a distance of 1 to 3 cm vary according to whether they can be readily separated without injury to them. The end of the tube is ligated with a fine catgut suture and cut off short then beginning with the uterine end of the tube the peritoneum is sutured continuously and the serous surfaces approximated as far as the lateral end of the tube with a sharp thin round smooth needle. The lateral end is ligated in the depression made by the forceps so that the opening remains outside the peritoneum. If the occlusion is to hold it is naturally very important that the peritoneum should not be torn. Holzappel thinks it is better that the lateral piece of the tube with both openings should lie within the peritoneum than that the median opening should be lowered.

This operation has been used in four cases all of them more than a year ago. Conception has not taken place in any case and there has been no opportunity to perform the operation for restoring fertility. This would consist in drawing up the lowered end of the tube splitting it to hold it open with two sutures and suturing it to the lateral end.
K. BÖMLE

Steidl K.: *Primary Desmoid Tumors of the Round Ligament* (Zur Kasuistik der primären desmoiden Tumoren des Ligamentum rotundum) *Ztschr f Geb u G* 933 lxxv 386.
By Zentralbl f d ges Gynäk u G b r t h d Grenzgeb

After a short review of the literature of the subject in which about 30 cases are reported the author describes a new case of his own.

The patient a 41 year-old III para had for two years been troubled with dysmenorrhea and frequent desire to urinate and had noticed at the menstrual period a swelling of the abdomen over the symphysis. On examination a hard median tumor was found reaching above the umbilicus the uterus lay behind it movable and apparently not increased in size. A diagnosis of solid ovarian tumor was made. On operation the tumor was found between the recti covered with the very thin fascia which was closely adherent to the parietal peritoneum which was torn on removing the tumor. The pedicle of the tumor ran toward the internal inguinal ring the inguinal canal being obliterated. The uterus and adnexa were normal and the left round ligament passed through the internal inguinal ring directly into the pedicle of the tumor. The tumor had the form of a loaf of cheese 2 x 0 x 13 cm in size weighing 2680 gms. The microscope showed it to be a typical fibromyoma without degeneration. The patient had an uneventful recovery.

It was one of those rare cases of tumor of the round ligament of considerable size developing within the inguinal canal and showing the yet more rare growth upward between the muscles and the fascia. The majority of these desmoid tumors of the round ligament grow outward through the inguinal canal.
SCHNIEDLER

EXTERNAL GENITALIA

Leonard V N.: *The Post-Operative Results of Trachelorraphy in Comparison with Those of Amputation of the Cervix* *S t Gynec & Obst* 93 35.
By Surg Gynec & Obst

A complete post-operative history was obtained in 67 cases in which the cervix had been amputated or repaired by Emmet's trachelorraphy and the results of the two operations contrasted as to their therapeutic efficiency and as to their influence upon the subsequent marital history.

The author notes that although post-operative hemorrhage is by no means uncommon after amputation of the cervix — 5 per cent — it is of very rare occurrence after trachelorraphy. Furthermore the hemorrhage after amputation of the cervix may occur as late as the twenty-seventh day in the convalescence while such a delayed complication is very rare following Emmet's operation. In none of the cases of trachelorraphy was it necessary to resuture the cervix to stop hemorrhage while after amputation of the cervix this became imperative in six instances.

About 90 per cent of 167 cases reported a noticeable improvement in the general condition whether the plastic operation on the cervix was done alone or in combination with other operations. This improvement in the general health is attributed to the removal of the cervix as a focus of chronic infection in the cases of amputation of the cervix, but it is claimed that trachelorrhaphy can only exert an indirect influence on a chronic endocervicitis in rendering it more amenable to treatment. The presence of a marked endocervicitis is considered as much a contra indication to the performance of trachelorrhaphy as an indication for amputation of the cervix. Furthermore the cervix preventing multiple or stellate lacerations should always be amputated trachelorrhaphy being reserved for those cases showing one or two discrete lacerations.

Of the 167 cases 85 per cent complained of a vaginal discharge before operation. After amputation of the cervix in over 92 per cent of the cases the leucorrhoea either disappeared entirely 1 62.5 per cent of the cases or was noticeably diminished in amount in 30 per cent. On the other hand following trachelorrhaphy the percentage of cures was much lower the rate being 42 per cent the percentage of cases in which the operation showed no effect on the discharge being more than twice as high. In the latter group of cases the endocervicitis present was usually only very slight and leucorrhoea a relatively unimportant symptom whereas in the former group the reverse was true. It is claimed therefore that although the repair of a lacerated cervix may render a mild grade of endocervicitis more amenable to treatment trachelorrhaphy can not be considered as having any direct effect upon the infection present other than to diminish it and that the presence of a marked endocervicitis should be considered a contra indication to its employment.

Of 148 cases of lacerated cervix 118 or 80 per cent had dysmenorrhoea before operation. In 62 per cent of these cases there was noticeable reduction in menstrual pain following operation following amputation of the cervix in 39 per cent the dysmenorrhoea was cured or improved and the same result obtained in 70 per cent of the cases in which trachelorrhaphy was performed. The conclusion is reached that lacerations of the cervix bear some definite relationship to dysmenorrhoea in multiparae.

In order to compare the fertility of the patients after the two operations only those cases in which the occurrence of pregnancy would naturally be expected were used i.e. married women under 40 years of age at the time of operation who had borne one or more children previously and upon whom no operation had been performed which might render the occurrence of impregnation unlikely. It was found that of this group but 19.4 per cent reported fertility following amputation of the cervix while after trachelorrhaphy 38 per cent of the cases had become pregnant. The comparatively high percentage of sterility following amputation of the

cervix is explained by the frequent occurrence of cicatricial stenosis after this operation it being pointed out that the cicatrix invariably following the operation occupies a plane perpendicular to the cervical canal and in contracting must encroach upon its lumen from all directions. Cases are cited of complete cervical atresia following the operation, with hematometra resulting.

The influence of amputation of the cervix upon the course of subsequent pregnancy is very marked while trachelorrhaphy is apparently without effect in this respect. The incidence of premature delivery and abortion is more than doubled after amputation of the cervix less than half of the pregnancies occurring after this operation being carried to full term. On the other hand, the course of pregnancy after trachelorrhaphy is not influenced one way or the other.

More than 60 per cent of the full term deliveries after amputation of the cervix were difficult. Following trachelorrhaphy 80 per cent of the full term deliveries were described by the patients as easy labors. The author claims that the high cicatrix which accounts for the high percentage of sterility in the former group likewise explains this serious influence upon the course of labor. In properly selected cases the therapeutic efficiency of Emmet's trachelorrhaphy is quite as high as that of amputation of the cervix and since the many serious objections to the latter operation as regards the subsequent marital history do not apply it should be considered the operation of choice for women in the childbearing period.

Muret M. Symptomatology of Vesicovaginal Fistula (Zur Symptomatologie der Blasen-Scheidenfisteln). *Zucker f. Geburtsh. Gynak.* 1913, 1209.

B3 Zentralbl. f. d. ges. Gynak. u. Geburtsh. d. Grenzgeb.

In four cases of vesicovaginal fistula, the author noticed an interesting phenomenon. The patients could void urine voluntarily in a stream through the vagina from a small vesicovaginal fistula. There was a partial continence of the bladder and there was no collection of urine in the vagina as frequently happens. When the bladder was filled the tension of its walls the abdominal pressure and the contraction of the detrusor muscles opened the small fistula easier than it could overcome the resistance of the sphincter of the bladder which explained the voluntary voiding of urine through the vagina. The author believes that this continence is explained by the voluntary contraction of the muscles of the pelvic floor which succeeded in closing the fistula temporarily, there was, moreover, a certain tonicity of the bladder muscles to be considered.

In all these cases the fistulae were relatively high, they were small and their edges were not stiff but smooth and pliable. Moreover at the level of the fistula the mucous membrane of the vagina and bladder was separated by a thick layer of tissue so that the fistula opened into a small cavity. Keller.

Koch J A The Dry Treatment of Leucorrhoea and Cervical Erosions. *M J* 10 3 xxiv 330 By Surg Gynec & Obst

The author states that the etiology of leucorrhoea is endometritis endocervicitis cervicitis and vaginitis, and that the underlying causes may be gonorrhoea tuberculosis carcinoma chlorosis constitutional tuberculosis, or constipation.

He thinks that treatment applied to the interior of the uterus is bad treatment also that douches carry germs to the upper portion of the vaginal canal and by softening make reinfection possible.

The author's treatment is as follows: The vaginal vault is exposed by a speculum and wiped dry with gauze pledgets then a drachm of the powder is poured into the vagina and dusted over the cervix and over the vaginal walls as the speculum is gradually withdrawn. At the next treatment the moist masses are removed and the powder reapplied. This treatment is repeated on the fourth eighth tenth fourteenth and eighteenth days.

In vaginitis in children a glass syringe is used to introduce the powder. The powder consists of aluminum acetate one part laolin two parts and powdered talcum two parts. EDGEE CARV

Werner S. High Frequency Cauterization in the Treatment of Urethral Caruncle. *V J* 9 3 xxviii 113 By Surg Gynec & Obst

The author recommends this method of treatment very highly the technique of which is as follows:

The caruncle and contiguous mucosa are anesthetized by the surface application of a 5 per cent cocaine solution. An ordinary insulated wire electrode is used with a spark of medium intensity. The tip of the electrode is held about one-eighth of an inch from the surface of the growth and the spark is passed successively over every part of its surface—the normal mucosa should be avoided. The entire application need not take longer than one minute. No pain whatsoever is experienced by the patient provided the cocaine has had sufficient time to act. There is no reaction after the effects of the cocaine have worn off in fact where dysuria and tenesmus are present the very first urination following the treatment is less painful than those preceding it.

To sum up the advantages of this treatment for urethral caruncle are: (1) The ease and painlessness of its application (2) the immediate alleviation of dysuria and tenesmus (3) the absence of local reaction and (4) there is no necessity for confining patient to bed as after excision and suture (5) the complete *stillsit ad ut gr m of the mucosa*

FDW ED I CORNELL

Fromme F Di rticuli of the Urethra (Über Harnröhren vertikel) *Zisch f Geburtsh Gynäk* 9 3 lxxi 43

By Zentralbl f d ges Gynäk u. Geburtsh s d Grenzgeb

From a study of the literature of the subject the author believes that no authentic case of congenital

diverticulum of the urethra has been published and that therefore they must be exceedingly rare. Most diverticula arise after contusion of the urethra during labor when the mucosa and submucosa are torn and a hernial sacculation is formed in which urine collects after every micturition. The diagnosis is often difficult and can only be made after repeated careful examinations.

He reports two cases of his own where incontinence developed after delivery caused by post traumatic diverticula. In one case there was a diverticulum into which a supernumerary ureter opened. He concludes that this diverticulum must have been a remnant of Gaertner's duct. HAGEN

Von Franqué O Prolapse of the Ureter Through the Urethra with R marks About the Histology of Edema Bullosum (Über den Fall des Harnleiters durch die Harnröhre nebst Bemerkungen zur Histologie des Edema bullosum) *M natschr f Geburtsh u Gynäk* 9 3 xxviii 115

By Zentralbl f d ges Gynäk u. Geburtsh s d Grenzgeb

In a case of ureterocele in a young woman reported by the author the prolapsed portion protruded into the urethra and had become necrotic. The case was cured by a suprapubic cystotomy. Cystoscopic examination revealed a papilloma which might have been the cause of the prolapse. A bullous edema which surrounded the ureter was composed of edematous papillae analogous to the hydatid mole. The disease occurs most frequently with congenital atresia of a double ureter only nine cases being found with a simple ureter among 3 such cases. It is seen also however in congenital stenosis of the urethral ostium followed in the course of years, by an atresia. To the latter class belong the recently operated cases all the former ones soon died.

The chief dangers attending the disease are ascending infections of the urinary ducts from obstruction of the urethra necrosis and loughing of the prolapsed structures (cystitis hydronephrosis pyelitis). It is especially dangerous during pregnancy in consequence of a swelling of the mucosa. So far five cases have been cured by operation although a correct diagnosis was not rendered in a single case. The diagnosis can be made by cystoscopy only when a ball-shaped elevation exists at the ureteral termination which is covered by a normal visceral mucous membrane and which enlarges or decreases corresponding to pressure and position. As these signs are absent in cases of rupture of the ureterocele bullous edema etc. they are frequently thought to be tumors. The treatment in extensive prolapses is suprapubic cystotomy complete removal and suturing of the ureteral and visceral mucous membranes. The results of this treatment are very satisfactory.

Smaller prolapses are treated by endovesical incision of the stenosed orifice. The vaginal method with incision of the posterior urethra according to Simon is rejected on account of the difficulty of

bringing into view the affected structures and the liability of interference with urinary continence. The author considers the stenosis an arrested development because during foetal life the ureteral ostia are at first very narrow and later widen considerably.

Perrazich

Mitsukuchi A. Urinary Fistulae (Über Harnfisteln). *Beitr z Geburtsh Gynäk* 1913 xvii

By Zeitschrift d Gynaek u Geburt h d Grenzgeb

In the First Surg Gynecological Clinic from October 1907 till March 1912 there were 43 cases of urinary fistula 34 of them being fistulae of the bladder and 11 of the ureter. The cases were tabulated showing age cause and preceding operations for fistula time of appearance of the fistula, kind and size of the fistula operation result and further course.

Of the bladder fistulae there were three purposely produced through the abdominal wall 15 from obstetrical injuries and 16 gynecological ones. Of the obstetrical injuries 11 were in head presentations with 3 forceps operations and perforation. Whether it was caused in individual cases by pressure necrosis or by tearing could not always be decided— anomalies in the pelvis were sometimes the cause.

Of the 16 gynecological cases there were 12 postoperative bladder fistulae (1 urethral fistula and 11 vesicovaginal fistulae) 3 purposely produced fistulae through the abdominal wall and 1 fistula from a pessary. The fistula originated nine times after Freund Wertheim's operation for carcinoma of the cervix once after anterior colporrhaphy twice after vaginal and abdominal total extirpation. Suture is the only treatment recommended by the author for fistula. Those occurring during labor should be sutured immediately otherwise there would be a delay of six to eight weeks after delivery. Frequently a careful preliminary treatment is necessary for inflammations or cystitis. To widen the vagina which is often contracted paravaginal incision either in the median line or on the sides may be used. In the smaller fistulae formation of flaps and suture may be used. The edges of the fistula are excised and the sigmoid wall dissected from the bladder outward 0.5 to 1.5 cm.

The suturing if possible should be done in three layers. Larger fistulae and defects in the urethra are covered by transplantation of flaps from the vaginal mucous membrane. The sigmoid defect is repaired by vulvar or transplantation of flaps from the neighboring tissue.

In defects of the cervix the anterior vault of the vagina is split transversely and the bladder separated from the cervix by the formation of flaps. Once the abdominal route was chosen and by suturing the parietal peritoneum to the uterus and the broad ligament the field of operation was brought outside the peritoneum. Of the 34 cases 21 were treated by operation 21 or 61.5 per cent were cured and

2 or 5.7 per cent improved. In these cases the treatment is not yet finished. There were 11 cases of fistula of the ureter which were also analyzed as to location origin etc. Of the 6 cases operated on, there was vaginal transplantation of the ureter into the bladder in 4 cases— three of which were cured and one not abdominal transplantation in one case ending in death and plastic operation on the ureter in one case being without result. As a prophylactic measure in injuries of the ureter during operations an immediate exact transplantation into the bladder is recommended.

Mitsukuchi

MISCELLANEOUS

Bell W B: The Relation of the Internal Secretions to the Female Characteristics and Functions in Health and Disease. *Brd M J* 1913 ii, 1274. By Surg Gynec & Obst.

Discussing first the production of the female characteristics and functions the author believes that only where the whole endocrine system is in perfect harmony and acting efficiently may the genitalia become functionally active at puberty on condition of course that these organs are morphologically normal at birth. Thyroid or pituitary insufficiency may cause the genital organs to remain infantile and diseases of these structures may cause retrogression in the genitalia even after they have functionated normally. The development of the gonads and uterus causes retrogression in the thymus and as a result of the withdrawal of the thymus secretion the genital organs develop—both theories being thus upheld.

That the ovary alone is not responsible for the changes at puberty or for the integrity of the genitalia is shown by many facts both experimental and clinical. The pituitary body is undoubtedly of influence here and Bell regards this body as one organ though which portion of it possesses the genital influence is not yet clear. Removal of the thyroid in producing atrophy of the uterus results a further influence not to be disregarded.

Taking up arrangements in the development of the genital organs and their functions the author first discusses precocious puberty. While in the male this appears in conjunction with diseases of the suprarenal and pineal glands, in the female it is seen nearest where the ovary is affected. Hence Bell argues that the phenomenon in girls is associated only with tumors or hyperplasia of the gonads.

Delayed puberty on the other hand, being due to so many causes apart from the internal secretions is with difficulty prone to result from ovarian disturbance. Under development of the ovary is more apt to be a correlated condition. Practically it appears that the thyroid and pituitary in association with the ovaries are the factors most concerned in the final development of the female genital organs. Attention is called too to a practical point in treatment that unless genital activity be aroused during the period of change before twenty years it

is impossible sufficiently to control metabolism in order to produce the effect desired.

Under the general heading of derangements of the fully established genital functions the question of ovarian insufficiency is discussed at length. While there is no real evidence that ovulation does not occur during pregnancy or that ovarian secretion apart from that of the corpus luteum is in abeyance Bell suggests that if such is the case other organs of internal secretion, as the thyroid and pituitary may be subjected to considerable strain the original cause of hyperplasia in these structures. The author strongly favors autogenous ovarian grafts as the only ones of any use thin flat pieces without cortex being employed. Ovarian transplantation at best is only a mitigation of the artificial menopause.

Excessive ovarian secretion is expressed by an increase in sexual activity in certain types and by osteomalacia. It is probable that very soon injections of suprarenal and pituitary extract will be found efficient as controls in such hyperfunction.

Bell does not concur with the theory that eclampsia is caused by thyroid insufficiency.

Pituitary excess is more apt to produce masculinity and amenorrhoea in woman than excessive sexuality as it does in the male with a strong tendency toward sterility. Pituitary insufficiency shows expression also in amenorrhoea or scanty menstruation. As far as the genitalia are concerned this is also the chief symptom in functional disturbances of the suprarenal glands.

CAREY COLBERTSON

Herzog, H. *Involutions Forms of the Gonococcus* Neisser and Their Rôles as Intra Epithelial Cell Parasites (Über die Involutionsformen des Gonokokk Neisser und ihre Rolle als intracelluläre Zellparasiten). *Wien Arch f. pathol. Anat. u. Med.* 1913 CCXV 243.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

The dissertation of the author considers the gonococcus from its biological pathological and clinical behavior and confirms the observations of the earlier investigators especially Wertheim. Chronic gonorrheal disease processes are due to the fact that gonococci are devoured by leucocytic microphages as well as by mucous membrane epithelial cells. The phagocytosis does not necessarily lead to a complete annihilation of the germs but may stop when the bacterial elements are still visible although morphologically deformed and weakened. The result is a condition of symbiotic adaptation between epithelial cells and incompletely bacteriolysed germ elements which morphologically do not any longer resemble the gonococcus. The involution forms the morphology of which is minutely described resemble on cultures and in the cells of the mucosa the actinic excretors described by Von Prowazek.

SCHÖBER

Porchownik, J. B. *Transference of Pain in Diseases of the Genital Organs* (Übertragen der Schmerzempfindungen bei Erkrankungen der Genitalorgane). *At. natursch. f. Geburtsh. u. Gynäk.* 1913 XXVII 719.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Diseases of the female genitalia are accompanied by reflex pains in various locations particularly in the lower extremity and the pelvis. The sympathetic plexuses of the uterus and adnexa are located in the latter. The reflex pains in the so called endometritis dolorosa are especially severe but they also occur in oophoritis retroflexion of the uterus etc. These pains are caused by anastomoses between the plexus of the body of the uterus and the first and second spinal nerves from the sacral plexus.

Pain in the bladder the so called cystospasm and in the kidneys and gall bladder are also explained by anastomoses of the sympathetic plexuses with each other and with the plexus of the body of the uterus. This also gives rise to the reflex cough (uterine cough of Auvarel). Attacks of neuralgic pain in the region supplied by the trifacial are interesting. Only certain areas of the skin of the face are painful the so called hyperalgesic zones. The irritation of the genital organs is transferred through the solar plexus to the cervical plexus of the sympathetic and from there to the posterior roots of the spinal nerves and the trifacial.

GRASBUND

Albers-Schönberg. *Röntgen Ray Treatment in Gynecology* (Röntgentherapie in der Gynäkologie). *Tr. f. f. r. at Cong. Med. Lond.* 1913 Aug.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Deep X ray treatment in gynecology arose from the fact that the rays have a decidedly harmful effect on the male and female sexual glands. The effect on myoma is primarily exercised through the ovaries but in a considerable percentage of cases there is a direct effect on the tumor cells manifested by decrease in size or even disappearance of the tumor. The symptoms caused by the myoma improve markedly or disappear entirely. The hæmorrhage is changed to the normal menstrual type oligomenorrhoea or amenorrhoea is obtained and the general health is improved.

The symptoms of the artificial menopause are generally mild the percentage of complete recoveries high permanent results are certain in suitable cases. A certain number of myomas resist treatment and not all are suited for X-ray treatment. The narrowest and broadest interpretations of the indications for the treatment are set forth and are generally recognized. A greater number of cases are excluded after operation than before. The danger to the skin may be reduced to a minimum by suitable technique. The future must decide whether late injuries are to be feared.

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Huffman O V: A Theory of the Cause of Ectopic Pregnancy *J Am M A* 1913 11:230
By Surg Gynec & Obst

The author described a very remarkable specimen of ectopic pregnancy removed at necropsy. The entire uterus, tubes and ovaries were examined with a view to finding some confirmation of the inflammation or obstruction theories. The results were negative but he found two supernumerary but rudimentary fallopian tubes, one attached to each of the fully developed apparently normal tubes which enabled him to offer an explanation for the tubal pregnancy. He inferred that early in the embryological development of the individual there was a duplication of the Müllerian ducts and that, with the subsidence in the growth of one pair those portions which should have formed a second uterus with all the factors that determine an implantation area became fused as "recesses" within the walls of the tubes which went on to full development. Such a "recess" permitted the ovum to embed. His working hypothesis was thus formed: viz that ectopic pregnancy is determined by an anomalous embedding area.

In further support of his theory the author has examined sixty-eight specimens of tubal pregnancy and with the difficulties of examining torn and often incomplete material with the aid of distinguishing shreds of the chorionic villi, blood-clots, etc. he found a malformation in 54 per cent of the cases as follows:

1. 5 x had large irregular diverticula which could not have been caused by the growth of the ovum
2. 11 x had accessory ostia
3. Three were associated with anomalies of the opposite tube
4. Two presented small cysts to which were attached accessory tubes
5. Two had accessory ovaries
6. One had an anomalous tubule attached to the broad ligament
7. Five had accessory tubes
8. Nine were simple dilatations of the tube by the growth of the ovum
9. One showed a most unusual anomaly: a tube within a tube
10. Three showed nests of decidua like cells

All of the anomalies found were examined microscopically in order to prove definitely their exact nature. A true decidua membrane was found in none of them. The ovum when still *in situ* was found embedded beneath the mucosa, which with the blood-clot covered it on the side next to the lumen of the tube while on the side next to

the muscularis it was attached to a rich layer of cells derived from the trophoblast which had invaded the maternal tissues. This evidence besides the negative findings in regard to any obstruction or inflammation is sufficient to warrant the establishment of the anomalous-embedding area theory, the most logical of all the explanations for ectopic pregnancy. It is the most logical because it rests primarily on the mutual relation of the fecundated ovum and embedding site. The other theories with the exception of Webster's, lose sight of this very essential mutual relation which obtains in the normal physiology of embedding. The theory of anomalous-embedding area is not out of harmony with all the facts both clinical and pathological. It is not illogical like the inflammation theory, inflammation which is a recognized cause of non-embedding in the uterus becomes, according to the inconsistent theory an auxiliary of embedding outside of the uterus. Nor is it illogical like the obstruction theory according to which if it were consistent a fecundated ovum, caught in the cervix uteri or vagina, should go on and embed there. EDWARD L. CORRELL.

Wall F P and Cullen F K: An Ovarian Pregnancy Located in the Graafian Follicle
Gynec & Obst 1913 xvii:698
By Surg Gynec & Obst.

The author reports a case of ovarian pregnancy in which an ovum six weeks old was found within the graafian follicle. The diagnosis was difficult on account of the misleading statements of the patient. The specimens of great scientific value for it is shown conclusively that the ovum had lodged itself in the graafian follicle undoubtedly in the one from which it came indicating that the sperm must have entered the follicle after it had ruptured. The fertilized ovum then found lodgment in the follicle around which the corpus luteum developed. As in other cases which have been reported no decidua was formed which demonstrates fully that the decidua is not of embryonic origin.

Seitz L: Galvanic Irritability of Muscle in Pregnancy and Tetany During Pregnancy
(Über galvanische Nervenmuskelreizbarkeit und über Schwangerschaftstetanie). *München med Wochenschr* 9:3 ix:849
By Zentralbl f d ges. Hyg. u. Geburtsh. u. Gynäkol.

Having believed that tetany is characterized by an increased mechanical and electrical irritability of the peripheral nerves and that this disease is particularly frequent in pregnant women Seitz decided to subject the galvanic irritability of the nerves to a accurate test.

He found that the cathodal closing contraction of the median nerve in non pregnant women appeared on the average with 1.3 milliamperes and in only 10 per cent of the cases did it appear below 0.9 ma. In pregnant women on the contrary it appeared below 0.9 ma in 80 per cent of the cases. Therefore in 80 per cent of all pregnant women there is a slight increase of the galvanic irritability. This reaches the highest degree during labor and disappears gradually during the puerperium. In about 10 per cent of cases during labor the cathodal closing contraction appears at 0.1 to 0.3 ma. that is there is what may be called a subtetanic condition.

That these results have a certain degree of practical value is shown by the case of a pregnant woman whose symptoms were slight at first and who was considered asthmatic at the time. Later when muscular symptoms began to appear pronounced nervous asthma and other nervous symptoms appeared — the result of her subtetanic condition. In her case the cathodal closing contraction of the median appeared at 0. ma. The author believes that what is commonly called the nervousness of pregnancy is often really a condition of subtetany — he calls it parathyrotoxicosis. Therapeutically pantopon has been used with good effect and thyroindin with somewhat less effect. **BOAZELL.**

Gellhorn G. Exophthalmic Goiter and Pregnancy. *Am J Obst* N Y 913 1914 1132
By Surg Gynec & Obst

Gellhorn discusses the effects that pregnancy has upon exophthalmic goiter and comes to the following tentative conclusions

The complication of pregnancy and exophthalmic goiter while comparatively slight in some cases may constitute a grave danger to the life of the mother

1 If the manifestations of Graves's disease are aggravated in spite of medicinal and other conservative treatment interruption of the pregnancy is indicated without delay.

2 The quickest and therefore best method of interruption is by means of vaginal cesarean section

3 Spinal anesthesia is preferable to any other form of anesthesia in that it reduces the dangers from any operation on patients from exophthalmic goiter

4 Girls with well developed hyperthyroidism should be advised against marrying

5 If Graves disease has appeared after marriage conception should be prevented

6 If vaginal section be performed tubal sterilization should be added. **N. SPAN & HEATLEY**

Eckelt K. Kidney Function During Pregnancy (Über die Nierenfunktion in der Schwangerschaft). *Ztschr f Geburtsh u Gynäk* 19 3 1914 436
By Zentralbl f d ges Gynäk Geburtsh u d Grenzgeb

Eckelt tested the kidney function as to the excretion of water sodium chloride and nitrogen in three normal pregnant women and in seven cases with the

kidney of pregnancy two of which ended in eclampsia. The water salt and nitrogen content was determined approximately according to tables and used to determine the balance of metabolism together with the average values of the nitrogen of the faeces and the water excreted as perspiration. To test the adaptability of the kidney it was over loaded with 1 to 1½ liters of water 10 gms salt and 20 gms artificial urea, containing 10 gms nitrogen. The concentration test on a dry diet was also carried out.

The examination of the kidneys of the healthy pregnant women by these methods showed no functional difference from those of healthy non pregnant women, neither was any increase in diuresis noted toward the end of pregnancy. The kidney of pregnancy diagnosed from the high albumin content of the urine and the appearance of oedema during the second half of pregnancy showed insufficiency in the excretion of water and salt and functionally resembled the so called tubular nephritis described by Schlayer. A fixation of the specific gravity such as is peculiar to some forms of nephritis could not be shown.

In both the cases complicated by eclampsia there was a sinking of the salt excretion which in the future may be regarded as a sign of an approaching attack of eclampsia. Because of the insufficiency of the kidney of pregnancy for the excretion of water and salt the fluid given should be limited and the diet should be poor in salt. A pure milk diet is not suitable because of its high water content. The results of the cases treated in this way disappearance of the oedema and fall in the blood pressure argue for the correctness of this theory. **BIRNBERGER**

Stoeckel Pyelitis in Pregnancy (Pyelitis gra idarum). *München med Woch* Nr 9 31 1914
By Zentralbl f d ges Gynäk u Geburtsh u d Grenzgeb

The author reports two cases of the above. Examination of the urine of the first case showed infection of the urinary tract with colon bacilli and a diagnosis of pyelitis was made. The symptoms were very severe and the general condition was bad, the kidneys were very painful on pressure and increased in size. The pregnancy was in the fifth month and continuous irrigation of the kidney for weeks with intervals of a day or two resulted in recovery and maintenance of the pregnancy. This case shows that even in almost hopeless cases success is attained by irrigation of the kidney. It frequently has to be repeated very often in order to overcome the intoxication by removing the badly infected urine.

In the second case a mistaken diagnosis of pyelitis which is very frequently confused with pyelitis had been made. A single irrigation of the kidney sufficed in this case. Early diagnosis is the most essential thing to success in curing the pyelitis and maintaining the pregnancy. In any febrile condition with local tenderness on pressure in the region of McBurney's point and pain in the kidney

region either on one or both sides, there should be an immediate bacteriological examination of urine removed from the bladder with a catheter. If colon bacilli are found in pure culture or associated with other bacteria the diagnosis is tolerably certain catheterization of the ureters will remove all doubt. It is doubtless true that expectant treatment with rest in bed and regulation of diet often succeeds but it is just as certain that during the delay of the expectant treatment many cases get so much worse that the kidney tissue itself becomes diseased and either surgical operation on the kidney becomes necessary or the pregnancy ends in abortion. Success in guarding the kidney from infection and maintaining the pregnancy can only be secured by changing at the right time from the medicinal and dietetic treatment to irrigation of the pelvis of the kidney. Rvrcz

Essen Müller F. Present Treatment of Eclampsia (Cunge Worte über die Eklampsiefrage heutzutage). *Alim. von Läk. ridsn. Stockholm*, 1913, 2: 84.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Gynäc.

The author gives a short review of the different theories in regard to eclampsia. He believes it is an intoxication originating in the ovum which should therefore be removed as soon as possible. He points out the fallacies in the arguments of those authors who oppose prompt delivery and believe in going back to old conservative methods of treatment.

In 31 cases he obtained exact information as to the time of the appearance of the first symptoms. The shortest was one day and the longest eight to nine months before the onset of the convulsions. In the cases of eclampsia during labor there were distinct symptoms at least 10 hours before delivery. Although he believes decidedly that it is an intoxication he has seen mild cases recover spontaneously. — 25 cases out of 53. He treats the cases according to individual indications: the mild ones expectantly the severe ones actively. Up until 1908 his total mortality was 97.6 per cent. In 1913 this figure rose to 13.6 per cent. In 53 cases 42 children were born living and 21 dead five were dead before birth one died immediately afterward from a severe malformation. The result in 57 cases was 15 dead children or 26.3 per cent. of these 8 weighed less than 2000 gms. of the living children 12 per cent. died.

He discusses the prophylaxis and treatment of eclampsia and says that all cases should be given hospital treatment. He does not commend Stroganoff's treatment which he says is irrational. He is favorably inclined toward blood letting but not decisively so. Bj6 r-r-r-r-r

Engelmann F. Compromise Between the Radical and Conservative Treatment of Eclampsia (Über den Wert der Therapie der mütterlichen Lähme bei der Behandlung der Eklampsie). *Med. Alim. Berl.*, 1913, 9: 31-58.
By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Gynäc.

The author reports the results of the treatment of eclampsia in the municipal gynecological clinic of

Dortmund. They have decidedly improved since radical early delivery has been given up. Under the old treatment he lost 3 out of 47 cases 6.3 per cent. in a series of 28 cases under the new treatment he has lost none. These results correspond to those of the Leipzig clinic. It is not advisable however to give up all attempts to influence delivery.

A combination of expectant treatment with rapid delivery gives better results for the child. Of the last 47 viable children in cases of eclampsia, the author lost only 4, one of those from an injury during delivery. This gives a mortality of 9.3 per cent. in contrast with 21 to 41 per cent. from the purely expectant treatment.

The author's treatment is a middle course between the extremely conservative and the extremely radical treatment. It is as follows. The patient is isolated and kept free from all external irritation all operative procedures are carried out under chloroform narcosis. An abundant quantity of blood is immediately withdrawn followed by infusion chloral enemata are given at regular intervals. Delivery is hastened by dilatation of the os or the use of the metruyrater artificial delivery is performed as soon as it can be done without danger. Rvrcz

Huasey A. The Indications for Cesarean Section, Found in a Series of Forty Four Cases from the Gynecological and Obstetrical Service of the Brooklyn Hospital, 1912-13.
By Surg. Gynec. & Obst.

From a series of 44 cases the author summarizes under nine headings the indications and contra indications for cesarean section as follows:

1. In pelvic deformity obstructing labor he states that disproportion between the diameters of the head and those of the birth canal is the commonest indication for cesarean section and in the above series he has operated for this complication 16 times. He describes the degree of disproportion as absolute when the difference between the diameters of the head in a favorable position and the diameters of the pelvis is so great that engagement cannot take place relative when the opposing diameters are such that engagement may or may not take place according to the moldability of the head and the character of the labor apparent when an abnormal position prevents the small diameters of the head from engaging with the small diameters of the pelvis. The pelvic diameters most frequently at fault are the true conjugate, the transverse and anterior posterior of the outlet. He states in a general way that with a true conjugate of 7½ cm. or less and a normal baby the indication for cesarean section is absolute and with a larger conjugate the indication may or may not arise according to the disproportion that exists the amount of molding that takes place and the physical condition of the mother and child.

2. Under the group of mechanical obstruction by diseased conditions of the pelvic soft parts

the author mentions tumors cicatricial contractions and inflammatory thickening of the pelvic soft parts and states that in the 44 cases he has operated five times for these conditions. He believes that ovarian cysts complicate labor about once in 3,000 cases and advises removing the cyst at the beginning of labor or if this is impossible he recommends a cesarean section.

3 In the cases of ventral or vaginal fixation dystocia, the author does not advise cesarean section except when a rapid termination of labor is necessary and suggests in the less urgent cases the releasing of the band of adhesion by laparotomy and allowing patient to go to term or the doing of an anterior vaginal hysterotomy.

4. He reports two cases of rupture of the body of the uterus in the series and two cases of contraction ring dystocia.

5. Cesarean section may be indicated in elderly primiparae who are having prolonged and ineffective labors and in whom the conditions of the soft parts are such that forced vaginal delivery would be injurious to the baby. There was one such case in the series.

6 He reports two cases of eclampsia in which the general condition of the mother necessitated rapid delivery and states that at the present time the operation for this condition is sometimes indicated and that it may be done in the interest of the child providing the mother's condition is favorable or when there is good reason to suppose that the baby can be saved by no other means and when a condition exists that would necessitate its application in the interest of the mother irrespective of the eclampsia.

7 He reports four cases of placenta prævia and suggests that caesarean section be used in severe forms of placenta prævia, where the child is in good condition the mother not infected the period of utero gestation over eight months and the condition of the pelvic soft parts such that easy delivery cannot be accomplished by the vaginal route.

8 The author reports only one case of heart disease in the entire series.

In conclusion the author says: When indications for cesarean section exist we must recognize them promptly and having recognized them it is our duty to earnestly urge it and to so handle our patient that when the necessity arises the operation may be done with the least possible risk and further that the result of cesarean section does not fall wholly in the hands of the operator but largely in the hands of the man who has prepared him.

W. D. PHILLIPS

Da 14 A B Cesarean Section a Study of a Con
secutive Series of Cases (m J Ob; 55
911 7 11) Surg Cyner & Obst

Da 1 report n ad list nal 46 cases to th series of 47 previousl reported cases and studies the result of th combined series f 103 consecutive cases per led by him ce 1903. Of these cases

174 mothers, or 90.2 per cent including 5 convalescent cases recovered while 19 or 9.8 per cent died. Of the 19 deaths 15 occurred in the first 100 cases. Twelve of the 19 deaths were due to sepsis 9 of which are ascribed to the attendance prior to the patient's entrance to the hospital. In all 196 infants were delivered—twins in 3 instances 164 including 4 still in the hospital or 84.1 per cent survived the puerperium 31 or 16.9 per cent were stillborn or failed to live of the 31 11 were still born. The majority of the deaths subsequent to delivery were due to prematurity.

In reviewing the results obtained in the various affections, notes stating the sections the author states that 15 sections were performed for eclampsia; all the patients were either having convulsions or were in coma. 12 were primiparae; none were in labor; scarcely any of them were at full term. Eleven or 73.3 per cent of the mothers recovered; 4 or 26.7 per cent of them died. Five children were delivered of the 4 mothers who died; 4 of them lived. In all 17 children were delivered from the 15 mothers: one set of twins and a premature fetus were stillborn; three other babies died during the puerperium, making a combined foetal mortality of 6 or 3.3 per cent. Eleven babies or 64.7 per cent were dismissed in good condition.

Three of the cases had a rupture of the uterus in a subsequent labor in one case both mother and child died in the other two both survived. Davis considers that the dangers of a rupture of a section scar is a real danger and that the patient should be carefully watched during pregnancy and that a section should again be performed at term or in the first part of labor.

Da l F C Report of Cesarean Sections Done
During Past Year J M A 1 Co 013 1 160
By S rg Gynec & Obst

The author reports that in performing five vaginal cesarean sections during the past year he lost one case from profound toxemia and ether used in the anesthetic. He had four abdominal sections without maternal mortality, a premature child delivered of an eclamptic mother was delivered alive but did not survive.

In one case fibroid tumors in the lower uterine segment necessitated the operation in another a narrow pelvis which prevented the head from engaging after three days labor demanded the operation. Another woman had a Pott's disease affecting the lumbar with marked kyphosis and a very narrow inlet. The fourth woman was eclamptic and had a conjugate of only three and one half inches.

McPherson R. Treatment of Placenta Praevia by
Caesarean Section When It Ever Is It Just
ifiable? Am J Obstet & Gynecol 1934; 24: 124
By Surg. Genl. & Col.

Of 40 cases of placenta previa treated in the New York Lying-In Hospital, since 1901, 10 cases

since 1905 were treated by Caesarean section by six different operators. No case had more than two fingers dilatation and all had lost much blood. One mother died or a mortality of 5.3 per cent. Two children were stillborn and three died before leaving the hospital. A fetal mortality of 5 or 26 per cent. McPherson believes that when the patient is a primipara whether the placenta is marginal or central or a multipara, with the placenta central if the cervix is rigid or not easily dilatable that caesarean section is the operation of choice in competent hands and good surroundings, providing that the child is viable and the mother offers the ordinary safe operative risk.

N. SPAGOR HEANEY

Grossen, H. S.: The High Short Incision for Caesarean Section. *Intern. M. J.* 1913, xx, 143. By Surg. Gynec. & Obst.

The author reports a case in which the high incision was used. The advantages of this incision are as follows:

1. There is less extensive handling of the peritoneal surfaces hence less shock and less danger of infection.

2. The incised uterus drops away from the abdominal incision thus preventing adhesions which have proven a serious matter in some cases operated on by the usual incision.

This incision cannot be used when there is a possibility of removing the uterus for infection.

EDWARD L. CORVELL

Benthin, W.: Treatment of Febrile Abortion. (*Zur Behandlung des fieberhaften Abortus*). *Ztschr. f. Geburtsh. u. Gynäk.* 1913, lxx, 832. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

In view of the widely varying reports as to results from Winter's conservative treatment of retained ovum and remnants of placenta, as well as febrile abortion especially when hæmolytic streptococci are present he has had collected the 200 cases of febrile abortion treated according to these principles in his clinic since 1909 and Benthin reports them with detailed descriptions of the clinical course and bacteriological findings.

The bacteriological examination is limited to that of the vaginal secretion by means of smears on 1% per cent. grape-sugar blood agar plates and on glycerine blood agar plates. The blood examination was made in fluid nutrient media generally with grape sugar bacilli. Anaerobic bacteria were demonstrated in Burkhart's tubes by means of Schott-müller's agar culture modified by Sachs. He shows that active treatment is much more dangerous even when hæmolytic streptococci are not present, by the results of 152 cases of uncomplicated febrile abortion. The total morbidity was 4.5 per cent. mortality 2.6 per cent. 77 of them were treated actively with a morbidity of 23.3 per cent. mortality 5 per cent. 42 expectantly with 4.7 per cent. morbidity and no mortality. 33 first expectantly and then actively with a morbidity of 3 per cent and no

mortality. The prognosis was found to depend in a marked degree on the kind of bacteria present. In the presence of a hæmolytic streptococci, the morbidity and mortality was higher than with a hæmolytic staphylococci, colon bacilli and vaginal bacilli but in proportion to the total average it was comparatively low. In 48 cases of febrile abortion infected with hæmolytic streptococci he managed separately according to whether they were treated inside or outside the clinic, and whether they were complicated or not. The results were as follows: Under active treatment of 16 uncomplicated cases 1 recovered immediately 6 after two or three days fever 2 had pyæmia and 2 parametritis. 5 died two each of peritonitis and acute sepsis and one of acute septic thrombophlebitis of three complicated cases one died of pyæmia one of peritonitis and one recovered after a long illness. The total morbidity of this group was 62.2 per cent. mortality 36.7 per cent. or deducting the complicated cases 56.3 and 31.2 per cent. Of 11 uncomplicated cases treated purely expectantly three were slightly sick of two complicated cases one was slightly sick and one died. Of seven uncomplicated cases treated expectantly and then actively one was severely sick of pyæmia and one of parametritis.

There were no complicated cases treated in this group so that the morbidity for the expectant and expectant-active treatment was only 27.8 per cent and the mortality none. Outside the clinic two uncomplicated and two complicated cases were treated actively the first two recovered quickly the latter two died. Of five complicated cases of spontaneous abortion treated outside the clinic expectantly one was mildly and one severely sick and two died.

The important question in practice as to whether any harm is done by the expectant treatment the author answers negatively for some cases in others he leaves it an open question, considering his one case of pyæmia and he also leaves undecided the question as to whether active treatment would have been better in this case. He emphasizes the fact that in two thirds of his cases, under expectant treatment the uterus was evacuated spontaneously three times on the first day five times on the second, and once each on the third, fourth and tenth days. Moreover that in the active treatment there was generally a marked change for the worse while in the expectant treatment with the exception of the one case of pyæmia there was rapid decrease in the symptoms which had often lasted for a long time such as fever chills and hæmorrhage. There should always be strict rest in bed ergot medication, regulation of diet and avoidance of all injuries, among which examination is counted.

The author thus has a total morbidity of 6 per cent and mortality of 36.7 for actively treated cases, as against 48 per cent and 16 per cent for the expectant if he includes the complicated cases and those treated outside the clinic if he excludes the complicated cases he gets 56 and 31.2 per cent for the

active cases and 27.8 per cent and none for the expectant ones

It is natural that Benthin should regard the results of this last series of cases as a confirmation of the correctness of Winter's teachings. He concludes with a critical review of the work appearing on the same subject from other clinics but says that their statistics as to morbidity and mortality can not often be compared with his either because the expectant treatment was not strictly carried out or because the mortality of the cases with hemolytic streptococci which is the vital point of Winter's teaching was not separately reported

VASSNER

LABOR AND ITS COMPLICATIONS

Goldstrom, M. Prognostic Value of Demonstrating Streptococci in the Vaginal Secretion of Women in Labor (Über die prognostische Bedeutung des Nachweises von Streptokokken im Vaginalsekret Kreisender) *Ztsch f Geb u Gynäk* 1913 lxviii 737

By Zentralbl f d ges Gynak u Geburtsh u d Grenzgeb

The author examined 602 cases which were admitted to the clinic in labor without any clinical signs of infection. In some of the cases there had been vaginal examinations and attempts at delivery before they were admitted. Aside from the operative cases the examinations made in the clinic were all rectal. Complicating general diseases syphilis and gonorrhea were excluded. The secretion was taken antepartum from the lower third of the vagina, with Traugott's applicator.

Superficial smears were made on alkaline agar plates cultures in alkaline bouillon and anaerobic cultures in the upper layers of grape sugar-agar. Superficial smears were also made on blood plates. Quantitative conditions were not taken into consideration since in 11 cases, in spite of the fact that there were pure cultures of streptococci on the first alkali plates there was no fever during the puerperium. The morbidity was judged only by the temperature curve, axillary measurement and maximum of 38. Under these conditions there was no appreciable difference in the course of the puerperium in women without streptococci and those with hemolytic or non hemolytic streptococci. The prognosis of the puerperium is not dependent on the presence or absence of streptococci in the secretion of the lower third of the vagina antepartum. The danger of a strain of streptococci to the host cannot be determined either from morphological or biological data.

IRTZER

Rouvier, I. Simplified Directions for Podalic Version by Internal Manipulation in Head Presentations (Formules simplifiées pour la version podalique par manœuvres internes dans les présentations de l'ovide céphalique) *Bull soc d'ob t et d gynec d Par* p 3, 4, 46

By Zentralbl f d ges Gynak u Geburtsh u d Grenzgeb

In the internal version in the head presentation there are according to Rouvier four points to be consid-

ered in carrying out the operation: the position of the child's head, the location of the physician with regard to the patient, the insertion of the right hand and the seizing of the right foot. In version in the transverse position Rouvier proceeds as follows: If the child's breech is to the right the physician stands at the right of the patient, inserts the right hand and seizes the child's right foot. If the breech is on the left the procedure is the same except that left is substituted everywhere for right. If it is a case of head presentation the procedure is as follows: With the occiput to the right the operator stands to the right of the patient, inserts the right hand and seizes the child's left foot; with the occiput to the left he stands to the left of the patient, inserts the left hand and seizes the child's right foot.

FRANKENSTEIN

Stephan, S. Death from Intraperitoneal Hemorrhage During Delivery from a Varicose Nodule at the Angl of the Uterus (Intraperitonealer Verbl tungstod sub partu us einem Vix knoten an der Uteruskante) *Gynäk Rundschau* 1913 vii 657

By Zentralbl f d ges Gynak u Geburtsh u d Grenzgeb

The author reports a case of the complication described in the title which was brought to the clinic twelve hours after the patient had first fainted. A probable diagnosis of premature separation of the placenta was considered so the uterus was emptied by agnial cesarean section and laparotomy performed afterward. Unfortunately the anemia was so extreme that the patient died half an hour after the operation.

The author recommends in similar cases where the diagnosis is somewhat in doubt that an exploratory laparotomy be performed as soon as possible.

ERLIER

PUERPERIUM AND ITS COMPLICATIONS

Polak, J. O. The Management of the Interior of the Uterus in Post Abortal and Post Partum Infection *Le g itia d M J* 9 3 459

By Surg Gynec & Obst.

In a clear and concise way the author shows why every case of post abortal and post partum infection should be studied carefully and treated according to the type of infection and the duration of pregnancy avoiding the use of the curette or any intra uterine examinations during the acute stage of the infection except in abortion cases of less than seven weeks when the uterus is retroflexed.

A study of nearly 2,000 cases of puerperal infection has demonstrated that the endometrium should never be curetted in streptococci infection and that curettement of the placental site is a potent cause of thrombo phlebitis of the pelvic veins. The author has also observed that peritoneal and parametrical complications are rare in cases in which the interior of the uterus has not been disturbed by digital or instrumental exploration.

Nature protects the organ against the invading

organisms by the formation of a definite layer of leucocytes and small round tissue cells which are deposited between the infected area and the underlying normal tissue. He states that the use of the curette in these cases destroys this protective barrier and spreads the infection and he advises as a more satisfactory means of securing uterine drainage Fowler's position and uterine contraction by means of pituitrin and ergot in full doses also the use of ice bags over the uterus.

In a report of 104 cases of puerperal infection the author states that a hemolytic streptococcus was recovered thirty-four times, a streptococcus of the non hemolytic type ten times, pure streptococci five times, combined growths of streptococci and staphylococci ten times, in combination with color bacillus five saprophytic bacilli five and with streptococcus and colon bacillus ten times. Of this series there were three fatal cases, one failing to show any organism in the blood in another the streptococcus *l. tricus* was found and in the third staphylococcus aureus. None of the 11 cases showing a hemolytic streptococcus were cured.

WM. D. PHILLIPS

Ilkewitsch W. J.: Treatment of Puerperal Septis by Intravenous Injection of Distilled Water (Über die Behandlung der Puerperalsepsis durch intravenöse Injektionen von Aqua destillata). *Zentralbl. f. Gynäk.* 1911 April 1900.
By Zentralbl. f. d. Gynäk. u. Geburtsh. u. Gynäk.

This treatment developed from the method of Hume of Baltimore who injected intravenously 500 ccm. of a 1 per cent solution of silver nitrate in distilled water and in the severest cases of sepsis got wonderful results. Ilkewitsch tried the method in 134 cases of puerperal fever, weakened the solution a 1 finally used distilled water alone 5 ccm. to a kilogram of body weight. He always observed first a chill and high temperature accompanied by an increase in the erythrocyte count followed by a decrease in the erythrocyte count. He treated 206 cases by this method and among 62 patients with the severest form of sepsis pneumonia he had 42 recoveries. If the hemoglobin content is reduced to 50 per cent and the number of erythrocytes to less than 270,000 and if the number does not increase after the injection the prognosis is hopeless.

MISCELLANEOUS

Donaldson M.: Some Observations of Blood Pressures in Cases of Normal and Abnormal Pregnancies and Labors. *J. Obst. & Gynec. Br. Emp.* 1913 Vol. 133. By Surg. Gynec. & Obst.

During pregnancy there is no increase of blood pressure nor is there any fall immediately following delivery. A definite statement as to the value of this observation with reference to collapse in cases of pregnancy complicated by can be known is made but the author tends toward the theory that the peripheral circulation has very little to do with

the collapse but that every factor is a danger heart is so great to account for it. In cases of albuminuria of pregnancy the most striking feature is the high systolic pressure in the peripheral cases pressure tends to fall gradually to normal delivery. It presents a difficult task to say for it is possible to disagree the pressure of a given renal lesion in the failure of the pressure to fall low. A rising blood pressure in the peripheral cases is certainly an indication for term. In albuminuria there is further evidence that the systolic pressure is some indication of the severity of the toxemia. In puerperal toxemia the pressure was not raised a fact suggests that toxemia in these cases differs from that of the albuminuric cases. In glycosuria complete pregnancy the blood pressure showed nothing abnormal.

C. A. CRUISE

Björkenheim F. A.: Golgi's "Internal Net" work in the Placental Epithelium (Golgi's "Arbeitsnetz" in der Plazental-epithel). *Zentralbl. f. d. Gynäk.* 1911 April 445.

By Zentralbl. f. d. Gynäk. u. Geburtsh. u. Gynäk. In 1908 Golgi discovered a network in the cytoplasm of syncytiotrophoblast which he called the "apical reticular system." This is now recognized as a structural peculiarity of all cells. Björkenheim's work is concerned with demonstrating the syncytium which had not hitherto been known certainly.

He used for material three human placentas after delivery and a human placenta from the fourth month of pregnancy. The specimens in fresh placentas were prepared by Golgi's chromic acid method and by Cajal's uranyl nitrate method. The details are given in the original article.

In the syncytium where there are no cell boundaries there was an angular line and the network with a center and a directed reticular structure corresponding exactly to the arrangement of the leucocytes and connective tissue cells. In the larger than cells the network is larger and more clearly defined and the clear area in the center is larger. In the amniotic epithelium the author observed an arrangement similar to that in the syncytiotrophoblast of the chorionic plate. The network is here arranged in a circle around the nucleus the edges of the network were continuous with the projections. Björkenheim believes with Golgi that his hypothesis to explain the network above is accepted and is of great importance in the development of the placenta.

W. H. D. Origin of Amniotic Fluid (Über die Herkunft des Amnionwassers). *Arch. f. d. Gynäk.* 1911 April 497.

By Zentralbl. f. d. Gynäk. u. Geburtsh. u. Gynäk. A review of the origin of amniotic fluid is given in the paper. The present comparison of the various theories is given. It is a review of the literature on the subject and is a very interesting and valuable contribution to the knowledge of the origin of amniotic fluid.

ing to Von Polano's experiments the amniotic fluid is a product of excretion of the foetus. The author comes to the conclusion that the ovum secretes the amniotic fluid making use however of material taken from the maternal organism so that its quantity and quality are to a certain extent dependent on the character of the nutritive fluids of the mother's body. The chief tissue concerned in its production is the epithelium of the amnion. The kidneys also have a share in it but to just what extent is uncertain. The direct cause of hydroamnios therefore must be sought in the secretory organs of the foetus on which diseases of the mother act only indirectly.

If the amniotic fluid is a purely foetal product malformations such as club foot and congenital dislocation of the hip cannot be explained by a lack of fluid but the oligohydramnios itself must be due to an abnormality in the ovum. These experiments in regard to the origin of the amniotic fluid offer further proof of the activity and vital independence of the ovum.

EISENBERG

Waldstein E. and Ekler R. Proof of the Absorption of Spermatozoa in the Female Organism
Am J Urol 19 3 12 5 9

By Surg. Gynec. & Obst.

The authors have made a biological study of the fate of the spermatozoa in the female organism after copulation basing their work on the Abderhalden test for pregnancy.

Rabbits which were used for the experiments were allowed to have coitus and then blood was removed from the females in such a manner as to obviate hæmolytic which interferes with the reaction. One and a half cubic centimeters of the blood serum were then dialyzed with 0.5 gm. of rabbit testis. After 12 to 14 hours in the incubator the dialysate was subjected to the ninhydrin modification biuret test the theory being that if the semen was actually absorbed by the female her blood would contain a ferment capable of splitting the non-dialyzable complex testicular proteids into simpler bodies whose presence would cause a positive ninhydrin reaction.

Control tests showed that there was normally no testis-splitting ferment in the blood of the virgin female and female rabbits. Having established this point the authors made 15 tests on the blood of rabbits soon—mostly within 24 hours—after coitus. The results were all positive and what more many of these results were obtained in the same animals which had responded negatively to the first control series of experiments. In order to prove the specificity of this reaction for testicular protein the authors made control tests with other substances. The test with placenta four tests with muscle one test with kidney. These controls were all negative.

In response to the possible objection that it is not the absorbed semen but the impregnated ovum that causes the elaboration of this specific ferment

the authors point out that in the first place the interval after coitus is too brief for the ovum to exert any biological influence upon the mother as it is not yet brought into any actual biological contact with her tissues and that in the second place they have observed numerous positive reactions in rabbits which did not subsequently become pregnant. Nevertheless, a special study was made with the blood of pregnant rabbits, with the result that of ten cases investigated nine were positive. The reactions in these cases however were invariably weaker than those obtained immediately post cohabitationem.

The authors are not yet clear as to the exact time relations between the coitus reaction and the pregnancy reaction. That is they have agreed that the former begins soon after intercourse and ends probably within two weeks in non-pregnant individuals and that the latter lasts more than four weeks throughout pregnancy and even into the puerperium but they do not know definitely whether the coitus reaction goes over directly into the pregnancy reaction when conception has taken place or whether there is a reaction-free interval in these cases.

The authors do not believe that the reaction of pregnancy is produced by the same cause as the reaction of coitus for it is unreasonable to assume the constant absorption of semen throughout the entire four weeks. They would rather postulate the existence of a different ferment produced by the mother in response to the presence in her body of placenta the basis of the Abderhalden reaction and foetus as shown by Polano which has in common with the anti-ermen ferment the property of splitting testicular protein. That these two ferments should have this common faculty is not so remarkable when we recall that placenta and foetus arise in part directly from spermatozoa.

Transferring the results of their animal experiments to the human sphere the authors point out that in demonstrating the existence of a new substance in the body of a woman after intercourse they have furnished an additional basis for the explanation of those manifest phenomena which were formerly wont to be branded as merely psychic in nature. The medico-legal possibilities of this test as after rape etc. are of course very great.

A. C. STOKES

Williams, W. W. and Ingraham, C. B.: Abderhalden's Pregnancy Test. *Col. Med.* 19 3 367
By Surg. Gynec. & Obst.

This paper gives a detailed description of Abderhalden's pregnancy test including the testing of the dialyzers, the preparation of the placenta, and the method of obtaining the blood serum.

The dialyzers are softened by soaking in water then after receiving 2.5 ccm. of diluted egg white are placed in dialyzing vessels and the dialysate tested for albumin with the biuret reaction. If impermeable to albumin they are then tested for

permeability to peptone using 2.5 ccm of a 1 per cent silk peptone in the tube. Ten ccm of the dialyzate is boiled with 0.2 ccm of a 1 per cent aqueous ninhydrin solution a boiling rod being placed in the tube and all the tubes boiled for exactly one minute. All the shells which are equally permeable to peptone as shown by a violet color after one half hour are used in the tests the others are discarded.

The placenta is boiled and rinsed repeatedly first with water and acetic acid later without the acid the object being to get rid of any extractable ninhydrin reacting substance as shown by testing 5 ccm of the filtrate with 1 ccm of a 1 per cent ninhydrin solution. When there is no reaction the placental material is ready for use and may be kept indefinitely if treated carefully.

Fifteen to twenty ccm of blood is withdrawn from the vein of the patient allowed to clot spontaneously and the serum only used in the test. The serum should be free from substances which react with ninhydrin for this reason it is preferable to take the blood during the fasting period before breakfast it should be free from haemoglobin and should contain no formed element.

In the test three dialyzing shells are used to one is added 0.5 gr of placenta and 1.5 ccm of the serum to be tested to the second 1.5 ccm of the serum and to the third 0.5 gr of placenta and 1.5 ccm of distilled water. The shells are then placed in dialyzing vessels and the shell and vessel contents covered with a layer of toluol to prevent evaporation and contamination. They are incubated at 37 C for 16 hours and the dialyzate then tested with ninhydrin solution no tube except No. 1 showing any color although occasionally the second tube may show a faint reaction.

The authors made 27 tests on 21 cases six definitely pregnant seven indefinite cases and eight known definitely to be non pregnant after using all necessary precautions and retesting the cases where hemolysis had occurred the test was found wrong in only one case.

The reaction should be positive in pregnancy in the fifth and sixth week and until ten to fourteen days post partum. Where there is protein catarrh breaking down of the tissue absorption of exudates and transudates carcinoma sarcoma purulent processes and hemorrhage the serum may react with ninhydrin and confuse the test.

D. H. BORN

Sattler R. The Prophylaxis of Ocular Birth Infection and Venereal Diseases. *La Clin* 1913
(64) By Surg. Gynec. & Obst.

The author calls attention to the close affiliation of ophthalmia neonatorum which is one of the most fatal causes of infantile blindness with gonorrhoea and believes that the reduction of the true specific cases cannot be achieved through ocular prophylaxis alone, but only through more widely distributed and easily available information regarding the

treacherous dangers of gonorrhoea. He suggests (1) That among the legitimate married classes, if proof is at hand that the father was the carrier of the mother's and infant's infection he should be brought before the local health officer in order to impress forcibly upon his mind the enormity of his misdemeanor. (2) That the Board of Health should compel the prompt registration of every ocular birth inflammation or contamination and make Crede's prophylactic management compulsory for every case in public lying-in hospitals and outdoor obstetrical service. He considers Crede's prophylaxis the best and most successful means of stamping out an imminent ocular contamination and as proof calls attention to the great reduction in the total number of ocular birth inflammations since this method has been adopted. Among the prophylactic agents he considers the silver salt the safest and far above its substitutes, argyrol etc. This agent, he recommends in every particular case as he has met with but few harmful consequences in its use.

He considers the possibility of pyogenic organisms being forced into the eyes through a patulous nasal duct from the nasal cavity which is a larger and easier receptacle for the longer lodgment of infectious pus during protracted labor.

ALEXANDER W. SCHMITT

Tucker B. R. Birth Trauma in Its Causative Relation to Epilepsy and Insanity. *Surg. M.*
Sci. M. M. 1913 418
By Surg. Gynec. & Obst.

The author states that in the pathology of epilepsy three points must be borne in mind. First to have epilepsy there must be a brain structurally defective and in birth trauma cases there is usually found definite evidence of local compression hemorrhage or cyst formation second repeated convulsions may cause dilated blood vessels increase in the neuroglia elements atrophy of convolutions punctate hemorrhages and local edema. The third element in the pathology according to Turner is in the blood vessels and consists of intravascular clotting either formed by masses lying free in the vessels which are probably an amalgamation of blood plates and hyaline material formation, or finely granulated debris or fibrin threads.

It must be remembered that many cases of birth trauma of more or less severity are not followed by epilepsy or insanity and that on the other hand, both of these conditions may appear from other causes in individuals who present evidence of birth trauma. The author gives a brief history of 15 cases in which birth trauma was the probable cause of the epilepsy. C. H. DAVIS

Winn J. F. Intracranial Trauma at Birth. Their Interest to the Obstetrician. *Surg. M.*
Sci. M. M. 1913 415
By Surg. Gynec. & Obst.

The author estimates that in the past ten years there have been at least 64,240 deaths from birth

trauma This is based on the mortality statistics for the "Registration Area" of the United States for the year 1910. He states that Schultze in a study of this subject in 1877 came to the conclusion that 5 per cent of children are stillborn and that 15 per cent die very soon after birth as a result of injuries at birth.

In conclusion the author believes the following deductions are warranted and in view of the very high mortality rate and the serious fetal morbidity, he would enter an earnest plea for their universal adoption.

1. The absolute necessity for the routine practice of pelvimetry and fetometry several weeks before term when possible and again at the time of labor on every primipara and likewise every multipara with a history of a dystocia or a stillborn child.

2. An accurate diagnosis if possible of the presentation and position of the child prior to labor and certainly when labor has begun coupled with a thorough knowledge of the mechanism of labor in contracted pelvis.

3. The cultivation of that watchful expectancy necessary for recognizing the indications for intervention when the child is in jeopardy not forgetting the welfare of the mother.

4. A more intimate acquaintance with the indications for and the correct application of the forceps and the dictum that forceps should never be used to save the physician a time.

5. That the failure to remember that the sudden and prolonged pressure of the forceps results in dangerous and murderous compression of the child's brain and that the unskilled and indiscriminate use of the forceps often causes the cause of intracranial hemorrhage than the rather infrequent high degree of pelvic contraction.

6. That the prompt and careful study of the fetal heart sound will eventuate in the reduction of the mortality and morbidity dependent on cerebral compression and hemorrhage.

7. That the more general resort to episiotomy when the fetus is unduly compressed by a resistant perineum will likewise reduce the number of asphyxiated and crippled infants. C. H. DAVIS

Frazier C. H. Surgical Aspect of Birth Traumatism

J. M. S. M. J. 1913 45
By Surg. Gynec. & Obst.

The most significant feature of the new literature is the fact that the most serious and usually fatal injuries are those which result from the use of the forceps. The author states that the most frequent cause of death is intracranial hemorrhage, which is usually the result of the use of the forceps. The author also states that the most common cause of death is asphyxia, which is usually the result of the use of the forceps. The author also states that the most common cause of death is asphyxia, which is usually the result of the use of the forceps.

The most common cause of death is asphyxia, which is usually the result of the use of the forceps. The author also states that the most common cause of death is asphyxia, which is usually the result of the use of the forceps.

are Extreme restlessness and spasm rigidity of the extremities epileptic like twitches of the face arms and legs lowered pulse and respiration rapid rises in temperature increased reflexes bulging of the fontanelles disturbances of the pupil etc. With the peribulbar type the baby is usually in a somnolent condition with cyanosis of the face head and hands pulsating fontanelles irregular breathing and sometimes convulsions. In all suspicious cases lumbar puncture and puncture of the subdural spaces on both sides should be resorted to C. H. DAVIS

Fuchs, H. Narcosis and Anesthesia in Childbirth
J. M. S. M. J. 1913 45

By Surg. Gynec. & Obst.

Circumstances combining to establish the use of chloroform in normal labor to establish narcosis are

- (1) Use of minimal quantities of the anesthetic
- (2) remarkably quick awakening
- (3) slight or no after-effects

Tolerance of chloroform during labor is the result of (1) increased gas exchange in the lungs (2) increased driving power of the heart and (3) rapid escape of poison through bleeding.

In the opinion of the writer there is an important sphere of usefulness for chloroform in normal delivery namely the so called narcosis *à la reine* — chloroform inebriation. This is brought about by careful administration to maintain the stage of hypalgnesia or analgesia which normally precedes the stage of excitement. The success of the properly conducted chloroform inebriation is of such a nature that not only are the pains not felt but usually there is a loss of memory of the severe pains.

Either as a help in labor is far superior to chloroform. It diminishes the pains far less and interferes with the abdominal efforts hardly at all.

Pantopon given hypodermically effects psychic calm and lessens the pains felt without any noticeable deleterious influence on the frequency and duration of the pains. Its effects on the child however may result in deep anaesthesia if the mother is born.

The analgesic action of scopolamine morphia peculiar to the pain are perceived at the moment but leave no memory picture.

Instructions. We are still far from the goal of perfect anesthesia which will satisfy the rule no pain.

Boem de Kat Angelino I. and Margot A. J.
Fate of 740 Children with a Birth Weight of Less Than 3000 Grams (Letershneider)
The author states that the most common cause of death is asphyxia, which is usually the result of the use of the forceps. The author also states that the most common cause of death is asphyxia, which is usually the result of the use of the forceps.

By Zentralbl. f. Gynäk. Geburtsh. d. Frauenz.

The author's treatment of the above cases when the temperature sank the children were put into warm bath. The author states that the most common cause of death is asphyxia, which is usually the result of the use of the forceps.

of mother's or nurse's milk when this could not be obtained, modified buttermilk was substituted.

Almost all the children died who were born in the clinic kept in the incubator and weighed less than 1600 gms. Of children born outside the clinic some lived who showed birth weights as low as 1200 gms. Of the boys born in the clinic 27.8 per cent lived of the girls 54.5 per cent. Of those born outside the clinic 40.9 per cent of the boys and 33.3 per cent of the girls lived. Of all the 175 children who were put in the incubator 105 died in the clinic 25 outside 33 (25.4 per cent) are still alive and 12 were lost sight of. Of the 565 children who were not kept in the incubator 53 died in the clinic 141 outside 341 are still living (1917) and 31 are unknown. Hirsch

Donnell R E Two-Headed Foetus *J W St J*
41 1913 x 208 *By Surg Gynec & Obst.*

The author reports a case of an unmarried girl of sixteen giving birth to a two-headed male foetus (*dicephalus dibrachius disacchenos*) weighing about 8½ pounds. Labor was practically normal L O A except that after delivery of the first head it required considerable traction to deliver the second. Donnell then gives a complete description of the foetus. The heads by measurement showed that they were actually of the same size and perfectly normal the faces were identical and the body apparently normal. At autopsy two entirely independent hearts were found enclosed in one pericardium there was one set of lungs two livers and two gall bladders. The small and large intestines were about twice as long as usual. The skelogram showed two separate and complete spines while the remaining bony structure was apparently normal. ALAN COLE & SCHMIDT

Blener L Lithopedion in the Mesentery for Twenty Years (Lithopædion im Mesenterium durch 20 Jahre getragen) *J Wtschr f Geburtsh u Gynäk*
1913 xxxvii, 4 8

By Zentralbl f d ges Gynaek u Geburtsh u Gynægeb

In an autopsy on a 56-year old woman a lithopedion was discovered which was connected only with the great omentum. It had grown until the fifth month and must have been lying in the abdominal cavity for at least 20 years. Microscopically aside from bone, only striped muscle and elastic fibers could be demonstrated. According to Kuchenmeister's classification this was a true lithopedion. Microscopical examination of the genitalia showed beyond a doubt that it was a ruptured pregnancy of the ampulla of the left tube. L. COLE

Foges A Use of Pituitrin in Obstetrics (Pituitrinanwendung in der Geburtshilfe) *Arch f Gynäk*
1913 xci 455

By Zentralbl f d ges Gynaek u Geburtsh u Gynægeb

From his study of the material in the Wertheim Clinic the author comes to the following conclusions:

Pituitrin is indicated as a means of stimulating pains at the end of the first stage and throughout the second stage. The conditions for the use of pituitrin are about the same as those for the use of forceps. Pituitrin is also indicated for breech presentations and placenta previa after version or metemurys earlier in labor it may cause complications. A combination of pituitrin and ergotin is useful in post-partum hemorrhage. For this purpose it should be given intramuscularly. It is an excellent prophylactic preventive of hemorrhage in cesarean section. Schmidt recommends that for this purpose it be given by direct injection into the musculature of the uterus immediately after the extraction of the child. ROSS

Heynemann T The Measurement of the Pelvis with Röntgen Rays and the Practical Use in Obstetrics (Die Beckenuntersuchung mittelst Röntgenstrahlen und ihre praktische Bedeutung für die Geburtshilfe) *Prakt Erg b u d Geburtsh u Gynaek* 9 3 v 237

By Zentralbl f d ges Gynaek u Geburtsh u Gynægeb

Stereoscopic pictures are distinguished from those that are limited to the most interesting plane of the pelvic inlet. The author discusses the latter when taken from short and long distances. When they are taken at close range there is an enlargement and distortion of the drawing for it is hardly possible to keep the tube in an exact central location and the plane of the pelvic inlet exactly parallel to the plate. The enlargement is less if the patient is placed in the abdominal position with the plate placed on the body and the tube behind. Both these disadvantages are decreased when the picture is taken from a distance. The best distance from the focus to the plate is 10 to 260 cm. In practice 0.7 cm should be subtracted from the size of the picture to get the real measure of the diameter. When taken at short distance a reduction is necessary in order to get the correct measurement.

Stereoscopic pictures are true orthomorphic images. The best distance from the focus to the plate is 60 cm in non-pregnant and 200 cm in pregnant cases. This should be decreased 6.5 cm between the first and second picture. These pictures give a good general view of the pelvis but cannot be substituted for obstetrical purposes for a picture of the pelvic inlet taken at long distance. Their greatest value is in exact measurements of the pelvis. By the Mackenzie Davidson method the desired diameter can be obtained exactly but the method is complex and difficult so that it is questionable whether it can be used in general practice. The goal to be attained is to get the pelvic measurements direct by the use of the stereoscope. Palfinch succeeded in principle but the practical clinical usefulness of his apparatus has not been sufficiently demonstrated. No way has as yet been discovered to utilize the roentgen rays for determining the size of the child's head. ROSS

ureter Catheterization of the ureters was performed and functional estimation made by means of phenolsulphonphthalein the urine being collected for one-half hour. The results of the examination are as follows. Right kidney—function free and rapid bloody microscopically negative except for red blood-cells urea 1.2 per cent phenolsulphonphthalein approximate time five minutes excretion 35 per cent for one half hour. Left kidney—function slow about one-eighth the amount of that on right clear good color microscopically negative urea 1.2 per cent phenolsulphonphthalein approximate time five minutes excretion 4 per cent for one-half hour.

The preceding examinations were repeated three times with practically identical findings on each occasion. Pyelography using 15 per cent collargol, showed on the right side a double ureter extending from the crest of the ilium and ending in two apparently normal pelves rather widely separated. The injection of 7 ccm into the left kidney pelvis produced definite pain and pyelography showed an irregular small indefinite pelvis. Estimation of the total renal function was normal, there being an excretion of 50 per cent for one hour following intramuscular injection of phenolsulphonphthalein.

In this case, on the right side which is the source of the haematuria, there are two separate kidneys, or more probably a large bifid kidney which has seven-eighths the total function. On the left side there is a kidney which secretes urine small in amount microscopically and chemically normal, and with a high urea concentration which is equal to that of the right kidney. The function however is so low that it is extremely improbable that it could maintain life. The practical importance of recognizing the deficient kidney in this case needs no comment.

The authors make a significant observation in finding that in the three cases in man in which the weight was obtained it was in every instance 40 gm. or one fourth the weight of a normal kidney and they suggest that this uniformity in the size and weight of the infantile kidney may indicate an embryological explanation for the anomaly.

The authors summarize the diagnostic points in recognizing the presence of an infantile kidney as follows:

1. When disease is present in the larger hypertrophied kidney the total function, as estimated by phenolsulphonphthalein is decreased and the function of the diseased kidney is usually greater than the function of the supposed healthy kidney.

2. The function of the infantile kidney shows marked decrease although the urea percentage and general character of the urine is normal while the amount of urine secreted is relatively small.

3. Pyelography is of doubtful value since the size of the kidney pelvis is usually not a reliable index of the size of the kidney.

4. In persons not too stout it may be possible to secure roentgen-ray shadows, showing the pres-

ence of a diminutive kidney. In Case 7 considerable help was obtained from the roentgen ray which showed a very small kidney shadow less than half that of the opposite side. This taken in conjunction with the functional findings and the character of the urine was of considerable diagnostic aid.

FRANK HILMAN

Thomas G. J.: Report of a Case of Pelvic Kidney; Diagnosis Before Operation. *Am Surg* Phila 1913 1: 109. By Surg. Gynec. & Obst.

The author reports the case of woman 32 years old who for one year had suffered from attacks of pain in the lower abdomen accompanied by tenderness in the left side of the pelvis and frequent micturition.

She had never menstruated and, on examination, no sign was found of uterus tubes, or ovaries. The vagina was one inch in length and there was a rounded mass, the size of an orange and tender on pressure, situated high in the left inguinal fossa. Because of the congenital anomaly of the pelvic organs ureteral catheterization injection of colloid silver and radiography were performed. The catheter could be passed into the left ureter for 5 cm. only. The shadow of the kidney pelvis appeared in the left side of the bony pelvis the right kidney was normal in size and position. The left kidney was removed by Mayo. It lay with the pelvis pointing upward and inward in the hollow of the sacrum to the left of the median line it was hydronephrotic and infected. The length of the ureter was 4 inches. Two or three renal arteries arose from the left common iliac about one-half inch below the bifurcation of the aorta.

The case illustrates the value of radiography in the diagnosis of ectopic kidney. HORACE SURVEY

Allen, L. W.: A Case of Bilateral Haematuria Cured by Injection of Whole Blood. *Am Surg* 9: 321-22 1913. By Surg. Gynec. & Obst.

The author reports a case of hydronephrosis with bilateral haematuria in which the bleeding was checked immediately by the injection of whole blood.

The patient a female 7 years of age had complained of pain in the left side and lumbar region for one year. Haematuria had been present one month but there had been no chills or fever nausea or cough. The physical examination was negative the urine contained many blood-cells but was otherwise normal. Radiograms made before ureter catheterization and with catheters *in situ* revealed no obstruction in the ureters but disclosed a right hydronephrosis. Catheterized ureters showed blood cells in both but no pus or bacteria. Haemoglobin 30 per cent coagulation time four minutes.

Twenty ccm of blood taken from the patient's sister were injected immediately after withdrawal into the cellular tissue beneath the breast four days after ureter catheterization. The urine became

clear in 20 hours and remained clear a week later the coagulation time was 2 5 minutes hæmoglobin 45 per cent.

After the patient spent two months in the country hæmoglobin had risen to 80 per cent thus transforming the case from a poor to a good operative risk, and although she still had the pain in her left side the patient refused operation.

In commenting on the case the author raises the question as to whether hæmaturia in hydronephrosis is due to a concomitant condition of the blood to which congestion and œdema are added or whether it is a local condition entirely.

He suggests the possibility that the injection of whole blood modifies the coagulability of the blood sufficiently to prevent leakage also that the bleeding in some cases of hydronephrosis is due to a change in the blood constituent and that in such cases the hæmaturia will yield to injections of whole blood homogenous serum and the like.

In idiopathic hæmaturia there would seem to be even greater reason for trying such injections before resorting to nephrectomy and in all cases where there is a very low hæmoglobin per cent preparatory to a later operation. Should it be found as efficient as human blood serum the simplicity of its use would recommend its more frequent employment.

H. G. H. W.

Halle N. A Case of Renal Canceroid (S. ca de canceroid renal) *Compt. rend. Soc. med. Par.* 1903. By *Journal de Chirurgie*

A neoplastic kidney was removed by Dujarier in a woman of 39 without any previous urinary history. The operation was incomplete because of the invasion of the renal vein and the lumbar gland. The patient recovered from the operation but died three months later from generalized metastases. The kidney was the size of the head of a fetus, the pelvis was dilated and transformed into a closed pouch filled with a turbid bloody liquid containing a mass of soft white caseous fragments. The pouch was empty in the lower part and filled above with a large infiltrating ulcerous inelastic neoplasm. The part of the renal tissue that was conserved in the upper extremity and the walls of the pelvis were filled with secondary neoplastic nodules which were white and either hard or soft. The orifice of the ureter was not dilated, catheterization was impossible because of an adhesion of the ureter to an anomalous branch of an artery that was the cause of the congenital uronephrosis. The histological study of the renal liquid, the free fragments of the main tumor and the secondary nodules gave the same results.

It was a pavement epithelioma. The surrounding connective tissue and the hilus were invaded by epithelial toxins localized especially in the sheaths of the nerves and vessels. The walls of the renal cavity at the points not involved in the new growth showed the ordinary chronic inflammatory lesions of uropnephrosis with interesting epithelial

changes keratinization of the epithelium in the region of the neoplastic nodules.

The conclusion is that congenital uronephrosis resulted from adhesion of the ureter to an anomalous branch of the artery followed by pyonephrosis then secondary neoplasm of the pelvis and of the upper calyx which was a canceroid with multiple secondary nodules and extensive invasion of the vascular and lymphatic connective tissue.

Renal canceroid is identical with vesical canceroid in its etiology (chronic inflammation) and in its anatomical characters, being an infiltrating tumor with rapid ulceration pouring numerous necrotic fragments into the urine which have an absolute diagnostic value; it is also identical in its clinical course and great malignancy. This gives a very clear cut picture of these urinary tumors which are not rare either in the bladder or the pelvis. The demonstration of pathological products of ectodermal origin in the urinary mucous membrane seems to contradict the doctrine of cellular specificity since embryology teaches that the urinary passages originate from the hypoblastic and mesoblastic layers. The hypothesis of dysembryoplasia may explain these lesions in a circumscribed and limited form in the upper ureter and pelvis. Diffuse leucoplakia of these parts may be understood too if we admit the complex structure of the mesoderm from endodermic and ectodermic elements as some embryologists do. But ectodermal growths in the bladder an organ of purely endodermal origin are inexplicable. The term inflammatory epithelial metaplasia does not take into account these peculiar facts.

J. DUBOIS

Brewer G. E. Observations on Acute Hemic Infections of the Kidney. *Am. J. Urol.* 1913. ix 549. By *Surg. Gynec. & Obst.*

The author accredits Albarran, Fernice and Scagliola for demonstrating hæmic infections of the kidney bringing their origin in the renal parenchyma of micro-organisms conveyed there directly. Israel in 1891 called attention to the possibility of grave renal suppurations due to micro-organisms entering the blood current from comparatively mild local infection such as furuncles, paronychia and carbuncles. Jordan later reported twelve cases in which the original source of infection was definitely traced to such significant peripheral lesions.

Reviewing his first series of experiments the author shows that in none of the control animals which had received a moderate dose of pathogenic bacteria directly into the circulation without other injury did a surgical lesion of the kidney develop. Of 16 animals which in addition to the inoculation received an injury to one kidney 5 showed no lesion or only hyperæmia and parenchymatous degeneration of the remaining 11 all developed surgical lesions of the kidney in 8 they were unilateral and limited to the injured kidney in 3 they were bilateral in 1 of the bilateral cases the lesions were practically equal in extent and severity while in

the other 2 the lesions in the uninjured kidney were mild in character and the animal undoubtedly would have recovered under favorable conditions.

In the second series of cases the author illustrates the fact that anemia and passive hyperemia so lower the resistance of the organ to a blood infection as to result in definite surgical lesions. In connection with this he recalls the experiments of Lucas and Brinstow Opitz who demonstrated that under conditions of increased pressure in the renal pelvis and ureter the renal circulation was greatly diminished which explains the marked susceptibility to infection in cases of hydronephrosis.

In a number of other experiments undertaken to determine the effects of small inert emboli in the production of surgical lesions by means of blood infection the minute seeds of blue moss were employed. In 9 instances these were injected into the general arterial circulation and the animal subsequently inoculated as in other experiments. All of the dogs died. 6 of them from symptoms of shock, probably due to cerebral infarct. 1 from acute hemorrhagic pancreatitis—it also showed a very few renal infarcts but there were no evidences of sepsis. It is probable in these cases that only a few seeds reached the kidney and the damage done was not sufficient to lower its resistance in any great degree.

A review of the microscopical study of lesions produced in these experiments shows that definite lesions when present were found identical with those found in our clinical hematogenous infections. In most instances they were found to be due to a plugging of the small arteries and capillary vessels with groups of the organisms. These minute emboli are later surrounded by an encircling zone of round cell infiltration. If the process is allowed to go on the bacterial emboli are rarely recognized until areas of necrosis and purulent infiltration are found. At a still later stage many of these collections of pus coalesce forming larger parenchymatous abscesses which may rupture through the capsule giving rise to a perinephritis.

The author divides the symptomatology into three types. First the hyperacute or fulminating which is so virulent that it proves fatal in a large number of instances long before any definite renal symptoms have time to develop. In this type the clinical picture is one of an acute general infectious disease with few or no local manifestations. The second type is somewhat milder than the one just mentioned but it also has a grave prognosis. This type is often recognized only after complete destruction of the kidney and venously interfered with functional activity of the other through toxic degenerative changes. The third and milder type which almost invariably occurs spontaneously without serious damage to the renal parenchyma, is of interest to the surgeon chiefly for the reason that it furnishes a rational explanation for so-called idiopathic pyelitis and also for the reason that it accounts for certain ephemeral rises of temperature observed after surgical operations.

In the first group or the fulminating type of the disease early nephrectomy offers the only chance of life to the patient. The author has observed 16 cases of the severe type of unilateral infection of these 2 were untreated and both died within twelve days. 4 were treated by nephrectomy and drainage, all dying shortly after operation. Ten were treated by early nephrectomy and recovered. In the second group early decapsulation will almost always abort the process and save the kidney. This relieves the acute hyperemia and favors the early inauguration of the processes of repair. The writer has operated on perhaps eighteen or twenty cases of this type and while there was no post-operative death in the series on one occasion he was obliged to perform a secondary nephrectomy for advancing sepsis.

Regarding the third or mildest type of the disease all that is necessary in regard to treatment may be summed up in three words—rest, water and urotropine.
LEWIS S. KOLZ.

Hicks P.: On the So Called Movable Kidney Disease. A Reply. *Practitioner* Lond 1913 20: 834.
By Surg. Gynec. & Obst.

The author replying to a previous article published by Monod states that he believes that nephroptosis is to be accepted as a part only of the general splanchnoptosis which will develop sooner or later and that in his opinion nephroptosis is not a mere symptom but is even the cause and origin of symptoms. The earlier stages are the lesser degrees of nephroptosis causing more direct kidney symptoms. The author believes in nephropexy and although he admits the operation is often performed with undue haste and on imperfect knowledge he is equally sure that some cases respond splendidly to operation in which all previous treatment has failed.

Believing as he does that nephroptosis is only a part of the general visceral ptosis, the author thinks that attention should be especially directed to the etiology and early diagnosis of this condition and, more important than all to preventive measures. These would consist in proper exercise and development of the abdominal muscles in the young and freedom from downward pressure produced from any cause. Measures to restore the tone and supporting power of the abdominal muscles should be enforced in cases of visceral ptosis which has its origin in pregnancy and labor.
H. L. S. WOOD.

Murard J. Decapsulation of the Kidney. Anatomical and Physiological Study (La décapsulation du rein. Etude anatomique et physiologique). I. 4 93 347.
By Journal de Chirurgie.

Murard's work shows the result of experimental research on the rabbit and the dog. His conclusions which are given herewith are in accord with those of other experimenters. Complete removal of the capsule is easy. After it is removed there remains

a thin layer of connective tissue surrounding the kidney from which the capsule is regenerated but this is anatomically distinct from the capsule. Decapsulation causes some injury to the most superficial tubules but these lesions are slight and practically the operation may be regarded as harmless.

After decapsulation a new capsule forms very rapidly by the tenth day it is as thick as the normal capsule and later it becomes thicker and harder. This new formed capsule has the same structure as the normal capsule with the exception that the fibrous bundles are less regularly arranged. Contrary to the opinion of d'Alvarran and Bernard and of Tuffier, Merzard has never seen this regeneration of the capsule accompanied by sclerosis of the renal parenchyma. There is no doubt that vascular anastomoses are produced between the kidney and the periphery but these anastomoses are slight not well developed and have no functional importance.

From the point of view of increasing the circulation decapsulation is a useless operation. Soon after decapsulation the kidney seems to increase in volume and becomes softer. These changes in form and consistency result from the fact that the kidney no longer being restrained by the capsule becomes gorged with blood. The increase in weight 3 to 4 gr. in the dog confirms the increase in the quantity of blood circulating in the kidney.

The study of renal function after decapsulation shows a slight polyuria with an increased amount of urea but these changes which take place in both kidneys are slight and of short duration. Clinical experience seems to indicate that in man the effect is more important and less transitory. The new formation of vessels does not seem to play any part in this polyuria which takes place immediately it must be attributed either to renal hyperemia which follows the decapsulation or to a hypothetical action of the sympathetic nerves of the gland.

C. LEORM

Vincent W. G. A New Kidney Cushion. A Two Compartment Air Cushion Designed for Abdominal and Neck Operations. *Med. Rec.* 9: 1, 1915, 35. B. S. G. Gynec. & Obs.

The author presents a new kidney cushion with improvements over the Edelbohn cushion. The cushion is of the latter type but is so constructed that when not fully inflated the pressure is diffused instead of being directed to a point also the insecure balance of the patient on the cylindrical cushion requiring readjustment is menaced by the slippage of the patient.

The new cushion is triangular in shape and is divided into two compartments the division being a horizontal line just above the center.

The back compartment is inflated to 7 1/2 inches and with both compartments inflated is provided with an anti-tube. The cushion is long and is equipped with a

bicycle type valve so that whenever desired the degree of inflation may be decreased or increased in either or both compartments by a nurse at a safe distance from the operative field. One or both compartments may be partially or completely inflated to suit the requirements of the operation. Five years experience with this cushion has demonstrated its advantages over sand bags, and other types of air inflated cushions in operations in the upper abdomen, thyroid, tonsil and cervical adenitis while in general work with the patient in dorsal position the partially inflated bag supports the lumbar curve preventing post-operative pain due to overstretching on a flat table.

H. G. HAMLER

Caulk J. R. and Davis, T. M. The Phthalein Test for Renal Function with Relation to Operative Procedures. *J. Mo. St. M. Ass.* 10: 3, 1915, 96. By Surg. Gynec. & Obs.

This study gives added proof of the extreme value to the surgeon of the phenolsulphophthalein test as an aid in diagnosis and particularly as an indication before operation of the functional activity of the kidneys. The authors summarize their findings in 25 cases of obstruction at the vesical neck, 10 cases of renal calculus, 14 cases of renal tuberculosis, 6 cases of pyonephrosis, 11 cases of pyelitis, 3 cases of hypernephroma and 2 cases of floating kidney as well as 147 medical cases in 14 of which there was marked kidney disease.

Two of the cases with urinary obstruction with very low phthaleins died from uremia before operation. All of the others showed a diminished phthalein output which almost invariably improved on preliminary drainage and in none of these cases was there any suggestion of post-operative uremia. In the calculus cases there was reduction in the phthalein in only two of the 10 cases which two cases had an associated pyonephrosis. Of the 14 cases with renal tuberculosis five had bilateral lesions. In the unilateral operated cases the excretion of phthalein ran parallel with the degree of renal destruction. Subsequent phthaleins in these cases showed immediately after operation a diminution but later an increase of the output equal to or greater than it was before operation. In six cases of pyonephrosis, the diseased side in five with unilateral disease showed marked reduction in total absence of phthalein the total phthaleins in these cases being about normal whereas in the bilateral pyonephrosis there was marked total diminution. In 11 cases of pyelitis three of hypernephroma and two of floating kidney there was practically a normal appearance time and total excretion. All the authors emphasize the importance of comparative tests from time to time. Every case and state no definite percentage figure above which it will be safe to operate but consider that each case must be judged on its own individual and comparative findings.

T. A. HIRSH

Scott, S G: The Radiographic Technique in Pyeloradiography *Proc Roy Soc Med* 913 vii, Surg Sect 41 By Surg Gynec. & Obst

Scott insists that the catheterization and the injection be made by the surgeon and on the X-ray couch in position for the skiagraphy so the patient will not be moved as a slight movement might pull out the catheter. Compression with the X-ray tube does not affect the free entrance of the collargol into the pelvis. The author does not recommend watching the solution fill the pelvis by means of the fluoroscope as it is difficult to see and takes a longer time. Radiograms are taken at full inspiration and full expiration. The time consumed should not exceed fifteen to twenty seconds. **JOHN G BURKE**

Kidd F: Pyeloradiography A Clinical Study *Proc Roy Soc Med* 1913 5 15 Sect 6 By Surg Gynec. & Obst

Kidd reviews the progress of urology in the last thirty years and cites the uses of the cystoscope, the röntgen rays and the catheterizing cystoscope, which enabled the physiological and pathological value of each kidney to be determined with accuracy. This still left to be solved the anatomical problem, whether two kidneys were present or only one and what is the shape, size and arrangement of each kidney and ureter.

This anatomical problem is solved by pyeloradiography, a shadow picture of the kidneys and ureter being taken while the pelvis of the kidney is filled with a solution opaque to the X-rays. The solution used is a five per cent collargol for thin patients and seven per cent for stout subjects. He finds this solution less irritating than colloid silver oxide or carentons. He states that the solution of silver iodide has not been used in a sufficient number of cases to establish Kelly's claim that it is non-irritating.

Kidd insists that no anæsthetic be given as it is important that the patient be able to tell when the pelvis becomes distended, by a feeling of fullness in the loins. If an anæsthetic is given there is no way of telling when the pelvis is full and too much of the solution may be forced into the kidney. The solution is passed through a ureteric catheter by means of gravity from a burette with a mercury manometer attached, a pressure of not more than 30 mm. of mercury being all that is necessary. A normal pelvis holds from four to ten ccm. of the solution, which falls into the pelvis slowly and steadily until the pelvis is full when it ceases to flow. As soon as the fluid ceases to fall in the burette the skiagram is taken, and the catheter is at once removed so as to allow the solution to flow freely into the bladder as the longer the solution remains in the pelvis under pressure the more likely it is to penetrate to the cortex. Pyeloradiography is of value in detecting congenital malformations, dilation of the pelvis and ureter either mechanical or in inflammatory.

Kidd had three autopsies where pyeloradiography had been used. Two cases did not show any damage

to the renal substance. In the third case the solution had penetrated to the cortex and the pathologist was unable to determine whether it had done any damage or not. On experiments made on fresh sheep's kidneys it was determined that infiltration of the cortex depends on the pressure and also the time the pressure is maintained.

The conclusions are

1 The gaining of the knowledge of the exact anatomical state of the kidney and ureter before operation is of such vital importance that a method must be found which will give this information.

2 The most feasible method is to fill the renal pelvis with a solution opaque to the X-rays and take a skiagram. This has been done in a large number of cases with excellent results.

3 The solutions so far employed such as collargol, carentons etc. seem to irritate the kidney a little though the irritation is only a passing one and is recovered from completely.

4 It remains for future research to find a solution that will not irritate the kidney.

5 Meantime collargol can be used in weak solutions of 5 to 7 per cent under low pressure 30 mm. and with as short an exposure as possible—less than fifteen seconds.

6 Caution is still necessary in advising pyeloradiography and it should be employed only by those who are in a position to practice it assiduously in carefully selected cases, that is to say cases in which otherwise an exploratory operation would seem to be necessary. The risk is far less than that of an exploratory operation.

7 It is probably not wise to inject more than one kidney unless the conditions are very exceptional. It is certainly not advisable to fill the same kidney on three or four different occasions with strong solutions say 15 to 50 per cent as has been reported by certain authors. **JOHN G BURKE**

Walker J W T: The Early Diagnosis of Hydronephrosis by Pyelography and Other Means *A Surg Phila* 19 3 170 766

By Surg Gynec. & Obst

The author prefaces his consideration of this subject by pointing out the resultant effects of renal distention on renal function. In a fully developed hydronephrotic sac there is little secreting tissue the kidney undergoing changes of interstitial nephritis, removal of obstruction is therefore not necessarily followed by recovery of normal function. He cites cases where the impairment was demonstrated by functional tests also a case of bilateral hydronephrosis in which removal of obstruction failed in that the renal function became progressively worse. The diagnosis of hydronephrosis in this stage is usually an easy matter and is not further considered in the article.

It is evident that in the presence of beginning hydronephrosis the diagnosis must be made early in order to prevent permanent functional impairment. The cause of the obstruction may or may

not be demonstrable by ordinary clinical means. In the case of obstruction by an impacted stone a gradual diminution in the severity of the attacks of colic is an important sign pointing to gradual stretching of the pelvis and ureter and, thereby of the muscular walls, which atrophy and lose their sensibility. Thus renal dilatation may increase with less and less symptomatic evidence. There may be however a constant ache in the kidney region and a persistent polyuria. He cites a case in which marked polyuria and albumin were present due to a calculus lodged just above the bladder. Removal was followed by disappearance of the polyuria and albumin.

If the obstruction is due to causes such as aberrant vessels, valve formations or congenital ureteral stenosis the diagnosis cannot be made by ordinary clinical means and we must therefore resort to the X-rays and the ureteral catheter. The symptoms are usually intermittent colicky pain or constant renal pain and polyuria but the picture is rarely clear and pain from other causes, e. g. osteo arthritis must be differentiated.

The author lays stress on the importance of careful and correct interpretation of kidney radio-graphs and alludes to the lack of normal standards. He has found that there is a constant ratio between the width of the vertebrae and the size of the kidney. He therefore measures the width of the first three lumbar vertebrae in the narrowest part, projects a line outward horizontally from each vertebra equal to twice the above measurements. The three points where these lines terminate will mark the outer limits of a normal kidney. A ureteral catheter with half inch opaque markings will afford a means of measuring the size of the kidney.

The capacity of the renal pelvis estimated by Lutz at 2 to 3 ccm. by Bazy 30 ccm. the author has found by radiography and operation to be 5 to 7 ccm. as a maximum. He finds an objection to Kelly's method of distention of the pelvis to the point of causing pain in cases of polyuria. Here the secretion of urine may be so fast that the pelvic distention is not all due to the amount of fluid injected through the catheter. As to the severe colic from pyelography reported in certain cases the author believes the causes to be too rapid injection, overdistention of the pelvis or improper temperature of the collargol solution.

A study of X-ray plates leads the author to believe that the renal dilatation may be of two types: (1) a renal type in which dilatation begins in the calyces which become elongated, club-shaped and considerably enlarged before the pelvis enlarges. (2) a "pelvic type" the pelvis becoming more and more globular and the calyces flattened out. He reports several cases illustrating the different types and degrees of hydronephrosis and the differential diagnosis from abdominal tumors, such as those of the gall bladder. Where the diagnosis was made early his operations for hydronephrosis in its various forms were followed by good results. Sources

of error in radiography are emphasized the author believing that injury to the kidney by collargol is very exceptional if gravity alone is used the receptacle never being raised more than 12 inches above the level of the urethra and the flow stopped at the moment when pelvic pain is produced the use of an anæsthetic is therefore prohibited.

HORACE BRINLEY

Moore. The Removal of Ureteral Calculi with the Operating Cystoscope with a Report of Three Successful Cases. *U. S. & C. A. Rev.*, 913, xvii 635. By Surg. Gynec. & Obst.

The use of the operating cystoscope for the removal of ureteral calculi has received little encouragement from surgical writers and only a few successful cases have been reported. The mortality of operation by section is high ranging in the reports of various surgeons from 6 to 17 per cent and in cases where complications existed the mortality rate ran as high as 52 per cent. The cases from which these figures are drawn are taken from the reports of Leonard Fowler Deaver and others. In view of this high mortality the assertion that the cystoscope procedure should at least be attempted is certainly not open to question. Successful cases of the removal of ureteral calculi with the operating cystoscope have been reported by Lewis Schmidt Kelly, Braasch, Moschowitz, Young, Kreis, Casper and Kolscher. With such an array of surgical talent as this in favor of the method the procedure assuredly deserves additional study and development.

The diagnosis is often difficult the stones may not show at the ureteral meatus upon cystoscopic examination and may not appear in an X-ray negative. In three of the author's cases where ureteral calculi existed, the X-ray negatives were without indications of stone. In the three cases here reported the operating cystoscope has been used successfully. In the first and third case the stone was wedged in the intramural port on of the ureter protruding into the bladder. In both of these it was possible to grasp the stone with the forceps which had been introduced through the cystoscope and to withdraw at one time the whole operating outfit with the stone. In the second case of this series however the stone was not in sight, the calculus was imbedded; the intramural portion of the ureter and the ureteral meatus closed in front of it. In order to obtain the release of this stone a knife was passed through the cystoscope and the ureteral meatus was slit. The stone was then exposed and was grasped with the forceps and withdrawn successfully. In another series of three cases the writer was able to dislodge ureteral calculi by the injection of oil through a ureteral catheter. In each of these cases the stone was in the lower portion of the ureter and passed shortly after the injection of the oil. In all of the cases cited the symptoms entirely disappeared. In view of the results in his cases and those reported by other surgeons the

author concludes that the natural course of treatment following a diagnosis of stone in the ureter should be as follows:

1. An attempt should be made to wash out the stone by the administration of large quantities of sterile water by mouth.

2. The stone should be removed from the ureteral meatus with forceps through an operating cystoscope.

3. An ureter should be injected with oil to cause passage of the stone beyond the grasp of the forceps.

4. The wall should be incised over the intramural stone that cannot be removed by the previous methods.

5. Operation by section should be done as a last resort.

If this plan is followed the writer believes that the number of cutting operations for ureteral calculi will be materially reduced. Although it may prove to be only the exceptional case that can be relieved before the cutting operation becomes necessary, the procedure will have been worth while in the avoidance even in a few cases of the high mortality rate of ureteralotomy.

Mackenrodt 4: Treatment of High Injuries of the Ureter and Treatment of Defects and Injuries of the Neck of the Bladder and the Sphincter of the Urethra (Zur Behandlung hoher Harnleiterverletzungen, Z. u. Behandlung des Harnleiters und der Harnblase und des Harnröhrenschließers). Ztsch. f. Geburtsh. u. Gynäk. 913 (1911) 24. By Journal d. Chirurgie.

The author gives a critical discussion of the cases of injuries high up in the ureter that he has seen and operated on for several years and comes to the following conclusion: A closure of the ureter of ten hours duration may under some circumstances completely annihilate the function of a previously healthy kidney, and this acute destruction of function in healthy kidneys may affect the other kidney retrogradually. The microscopical picture of the thickened ureters shows that the epithelium of the fin tubules was degenerating and was in all stages of necrosis. No septic process was visible and there was no bacteria in the microscopical appearance.

In the treatment of high injuries of the ureter there is a choice between the following methods: 1. Ligation of the ureter which is only to be undertaken if functional test has shown that both kidneys are absolutely normal and if the heart is normal. For these reasons it is not such an indication for operation as generally is thought.

In cases that deserve the author recommends an operation performed by him. It carries the stump of the ureter through the quadratus and sutures it to the kidney. The abdominal region is inserted a permanent ureteral catheter. After a time the ureteral catheter is removed. This method has the advantage over the first one in that the affected kidney is gradually excluded.

3. The uniting of the two ends of the ureter over a magne sum tube which operation he explains.

4. In spite of these methods he thinks, if the other kidney is sound, the best and least dangerous method is extirpation of the kidney.

The author recommends Trendelenburg's operation which with some modifications, he has used successfully in several cases. The bladder and urethra are formed from the mucous membrane of the vagina or bladder surrounding the fistula. The body of the uterus drawn forward by anterior colpotomy is so located that it almost compresses the neck of the bladder by suture of wide lateral flaps from the vagina. Rix.

Rochet: Extravesical Method of Approaching the Bladder End of the Ureter (La méthode extra-urétrale d'approche de la terminaison des urètres de la région correspondante de la vessie). Cong. de l'Ass. f. n. d. m. P. r. 9, Oct. By Journal d. Chirurgie.

Rochet thinks that to find the termination of the ureters in the bladder and the vessel and nerves that surround them by the abdominal route, the peritoneal dissection of the bladder may be utilized as a preliminary step but it is preferable to go through the peritoneum at once after placing the patient in the Trendelenburg position to draw the bladder decidedly upward and forward, and then incise the peritoneum which closes the retrovesical cul de sac anteriorly. In this way the retrovesical region is easily exposed. J. Draper.

BLADDER, URETHRA AND PENIS

Averseny 4: Forms of Pericystitis (Des péncystites). Cong. d. last f. n. d. m. P. r. 19, Oct. By Journal de Chirurgie.

Averseny has shown that the great cellular space lessened by Retzius around the bladder is in reality divided into two parts by a very well marked aponeurosis. The pericystic space is divided into the bladder and ascending part of the ureter. The rest of the space is called the pericystic space. Those inflammations which affect the health of the bladder are called pericystitis. Those which are localized in front of the organ and separated from it by the preescotic pericystic space are called pericystitis.

There are four forms of pericystitis: (1) The serous form which is rarely fatal; (2) the sclerodermic form which is characterized by the formation of thin white fibrous tissue around the bladder; (3) the suppurative form which may be localized in the bladder wall or it may extend into the peritoneum; (4) the necrotic form which is characterized by the formation of the phlegmonous form; (5) the diffuse phlegmonous form which is characterized by the formation of the lesion of the bladder wall. It is accompanied by irritation of the bladder and sometimes of the pericystic space. (6) The chronic form which is characterized by the formation of the bladder wall.

degree of cystitis even to ulcer and perforation compression of the ureter pyelonephritis pyonephrosis and perinephritis. There may also be in testinal genital or general complications.

There are three chief forms of extracystitis, as follows:

1 The sclerotic suppurative form the most typical expression of which is the woody phlegmon.

2 The suppurative form with large abscesses which is the ordinary prevesical phlegmon with an abscess in Retzius space prolonged toward the pelvis.

3 The phlegmonous form in which the abscess extends outside the limits of the prevesical space. It may invade the iliac fossa but has a special tendency to open through the skin in the region of the umbilicus or through some weak spot in the wall such as the inguinal ring.

The complications are the same as those of pericystitis with perhaps a more marked preponderance of appendiceal complications. As to pathology they are divided into those originating in the bladder and extending outward, and those originating outside the bladder and extending inward. Acute pericystitis originating in the bladder is a complication of cystitis and may assume a diffuse phlegmonous form. Acute pericystitis originating outside the bladder is often due to an inflammation of the appendix or adnæ. Chronic pericystitis of vesical origin is often a complication of prostatitis, calculus or stricture. Chronic pericystitis of non-vesical origin may be due to the extension of an infectious or neoplastic inflammation of the uterus, rectum or some other organ.

All these forms have subjective symptoms which may be confused with those of cystitis or inflammation of the neighboring regions and objective symptoms which may be determined by vaginal or rectal examination and combined palpation. Acute extracystitis on the contrary has very characteristic symptoms sharp hypogastric pain and a tumor which extends from the umbilicus to the pubis the pelvis per longation of which may be felt through the vagina or rectum. Almost the only symptom of chronic extracystitis is hypogastric swelling.

It is sometimes difficult to diagnose pericystitis as the symptoms are largely those of cystitis. The data appear to be more or less of intensity of the urinary symptoms must be considered well as the change in the urine and the character of the blood and deposit with regard to the sediment. A carefully studied urine will lead to correct diagnosis. At cystitis more localized it is not without history known but must be distinguished from testicular tumors and of the acute form. Pericystitis is often diagnosed only by uterine and the prognostic grade. That of different forms of cystitis is not always the same and as they are more localized they kill themselves but it is treatment a well diagnosis but because of their proximity to neighboring organs they may cause serious results if not treated promptly. The

treatment of pericystitis is essentially that of the cause. It may be necessary to operate on a hypertrophied prostate an appendix, or a salpingitis however the pericystitis itself sometimes demands special treatment. Extracystitis demand a hypogastric incision and a perineal or vaginal counter opening.

CATHETER has studied more particularly the forms of pericystitis which he called gynecological or postoperative following dissection of the bladder in hysterectomy for fibroids and suppurative pericystitis of which he reports a very curious case that had been taken for a very rapidly developing cancer of the intestine and peritoneum. It was incised and followed three months later by a perineal prostatectomy.

VERLIAC in 52 cases of pericystitis tried to determine the relative frequency of simple fibro-adipose pericystitis with or without adhesions to the neighboring organs suppurative pericystitis and pericystitis with perforation of the bladder. In prostatic cystitis fibro-adipose pericystitis is more frequent than suppurative in the proportion of 75 to 25. In gonorrheal cystitis with stricture 42 per cent of the cases showed a simple fibro-adipose pericystitis 35 per cent a suppurative pericystitis and in 2 per cent there was perforation of the bladder. In cystitis from lithiasis the proportion was almost the same. In phlegmonous cystitis fibro-adipose pericystitis is relatively frequent 40 per cent the pericystitis is suppurative in 20 per cent of the cases and there was perforation of the bladder in 40 per cent.

LEQUEU observed a very typical case of diffuse phlegmonous pericystitis, characterized by general symptoms with almost no local signs. In a pericystitis of this kind opened through the hypogastrium he had recovered from ulcerate infection of the wall of the polyarthritis. Chronic pericystitis when low down resembles cancer so much that wrong diagnosis may be made especially when it may give very good result in these subcutaneous inflammatory tumors.

BAIRD divides pericystitis into that of vesical and extra-vesical origin and mentions the different locations in which the extravesical forms may originate. Those of vesical origin may be acute or chronic and may lead to the formation of enormous masses of scleroid tissue simulating infiltrating neoplasms of the bladder. Some cases of partial pericystitis may be accompanied by intersepticum a symptom of phlebitis which gives rise to phlebotomy the formation of the bladder. Sometimes the extravesical with pericystitis may lead to rupture of the bladder in women and true incision.

PATHELLS attention to two late results of pericystitis inflammation due to urinary infection in the bladder. The first of these the formation of a fistula in the bladder may be caused by the extension between it and the posterior abdominal wall. The second due to an extension

author concludes that the natural course of treatment following a diagnosis of stone in the ureter should be as follows:

1. An attempt should be made to wash out the stone by the administration of large quantities of distilled water by mouth.

2. The stone should be removed from the ureteral meatus with forceps through an operating cystoscope.

3. An ureter should be injected with oil to cause passage of the stone beyond the grasp of the forceps.

4. The wall should be incised over the intramural stone that cannot be removed by the previous methods.

5. Operation by section should be done as a last resort.

If this plan is followed the writer believes that the number of cutting operations for ureteral calculi will be materially reduced. Although it may prove to be only the exceptional case that can be relieved before the cutting operation becomes necessary, the procedure will have been worth while in the outcome even in a few cases of the high mortality rate of ureterolithotomy.

Mackenrodt: A Treatment of High Injuries of the Ureter and Treatment of Defect and Injuries of the Neck of the Bladder and the Sphincter of the Urethra. (Zur Behandlung hoher Harnleiterverletzungen / zur Behandlung von Defekten und Verletzungen des Blasenhalss und des Sphincter urethrae.) *Ztschr. f. Geburtsh. u. Gynäk.* 1913, lxviii, 21. *Chirurg.*

The author gives a critical discussion of the cases of injuries high up in the ureter that he has seen in 10 years of operation. He comes to the following conclusions: A closure of the ureter of ten hours duration may and some circumstances completely annihilate the function of a previously healthy kidney, and the acute destruction of function in a healthy kidney may affect the other kidney sympathetically. The macroscopical picture of the other kidney in two cases showed that the epithelium of the renal tubules was degenerating and was in all stages of necrosis. No septic process was visible and there was no change in the macroscopical appearance.

In the treatment of high injuries of the ureter there is a choice between the following methods: 1. Ligation of the ureter, which should only be undertaken if a functional test has shown that both kidneys are absolutely normal and if the heart is normal. For these reasons it is not such an important operation as has generally been thought.

In each case the author recommends an operation tried by him which carries the stump of the ureter through the quadratus and uterine to the lumbar region and inserts a permanent ureteral catheter. After a time the ureteral fistula closes. This method has the advantage over the first one in that the affected kidney is gradually secluded.

3. The uniting of the two ends of the ureter over a magnesium tube, which operation he explains.

4. In spite of these methods he thinks if the other kidney is sound the best and least dangerous method is extirpation of the kidney.

The author recommends Freund's operation which with some modifications he has used successfully in several cases. The bladder and urethra are formed from the mucous membrane of the vagina or bladder surrounding the fistula. The body of the uterus, drawn forward by anterior colpotomy, is so located that it almost compresses the neck of the bladder by suture of its lateral flaps from the vagina. *Berlin.*

Rochet: Extravesical Method of Approaching the Bladder End of the Ureter. (Nouvelles expériences de pénétration à la terminaison des uretères de la rat.) *Compt. rend. de la séance Cong. d'Urologie et de Pédiatrie.* 1913, Oct. *Journal de Chirurgie.*

Rochet thinks that to find the termination of the ureters in the bladder and the vessel and nerves that surround them by the abdominal route, subperitoneal dissection of the bladder may be utilized as a preliminary step but it is preferable to go through the peritoneum at once after placing the patient in the Trendelenburg position to draw the bladder readily upward and forward and then incise the peritoneum which covers the retrovesical cul-de-sac anteriorly in the way the retrovesical region is exposed. *J. Duval.*

BLADDER URETHRA AND PENIS

A. reyn: Forms of Perley's (Desperier's) Cystitis. (Formes de la cystite de Perley.) *Journal de Chirurgie.*

A. reyn thinks that the great cellular space described by Rehn around the bladder is really limited to the very well marked aponeurosis that covers the perineal space. He thinks that the bladder and ascends toward the umbilicus. The pericystitis is called the pericystitis. These inflammations which affect the bladder are called pericystitis. These which are localized in front of the organ are called pericystitis. The pericystitis is called the pericystitis.

The pericystitis is called the pericystitis. (1) The sclerodermia of the bladder is characterized by the formation of a dense tissue around the bladder. (2) The pericystitis is called the pericystitis. (3) The pericystitis is called the pericystitis. (4) The pericystitis is called the pericystitis. (5) The pericystitis is called the pericystitis. (6) The pericystitis is called the pericystitis.

LE FUR, besides the case reported in his thesis reported three other cases of pericystitis. Two were of genital origin in men with very severe gonorrhoea and extensive suppuration one recovering spontaneously after evacuation of the abscess into the bladder the other after a perineal incision. The third case was a primary case of pericystitis, very probably of tubercular origin in a man of 28 who had genital tuberculosis which ended in death.

PATAMACHE reported a case of calculous pericystitis ending in death.

DESROS stated that perivesical inflammatory lesions frequently leave behind them functional troubles which are not known because the patients are dismissed from observation too soon. If they are followed up for a long time two sorts of cases will be found. In one the peripheral infection reaches the bladder cavity and a very stubborn pyuria is set up which it is very difficult to cure. In the other the urine is clear but the patients are obliged to urinate with excessive frequency as in hypertrophy of the prostate this trouble being worse at night. Ordinarily there is polyuria also. Later if the condition persists there is weakening of the bladder muscle and complete retention develops.

Heath O. The Significance of Frequency and Tenesmus in Acute Cystitis. *Bull. J. G. O.* 430. By Surg. Gynec. & Obst.

Heath presents a case of acute cystitis of one month's duration treated by an autogenous vaccine in 7 days time followed by an absolute and permanent cure without the use of urinary antiseptics or mechanical washings of the bladder.

The patient a medical man had acquired gonorrhoea the discharge under the microscope showing a mixed infection consisting of gonococcus, staphylococcus albus, and a gram positive bacillus of the xerosis or pseudodiphtheria type. There was no treatment other than care as to cleanliness and the discharge disappeared in about three weeks. During the next two months there were two or three recurrences of a gleet discharge which cleared up at the end of that time the patient noticed he could not hold his urine for longer than two hours in the day and had to get up once or twice during the night to micturate. This condition of great discomfort was allowed to continue for a month when the author was consulted with a view to having a vaccine made.

Examination of the urine showed a moderate amount of pus with numerous vesical cells and both the stained films and the cultivations made from the centrifugized pus showed staphylococci and bacilli of the xerosis type but no gonococci.

In the treatment of acute cystitis following a mixed infection, the author emphasizes three important points: (1) That the gonococci disappear in the majority of cases and the infection being kept up by the other bacteria which had been present in the original discharge and that marked symptoms of frequent micturition and tenesmus after the act

are indications of a strong and healthy reaction to the bacteria (2) that frequency and tenesmus are part and parcel of the process of cure, and should never be treated symptomatically (3) that tenesmus can be almost entirely and frequency partly controlled by the amount of water taken by the patient.

Active treatment was commenced by the subcutaneous inoculation of 50 million staphylococci and 25 million bacilli and 24 hours later drink was withheld for five hours to raise the bacteriotropic power of the blood and with a view to increasing the frequency and producing tenesmus. This procedure was repeated at 48 and at 72 hours after the inoculation as much water as was required to relieve the symptoms being allowed between times. On the fourth day a second dose of vaccine of 100 million staphylococci and 50 million bacilli was given and 48 hours later drink was withheld for four to five hours for the reasons noted above. The symptoms after the second inoculation gradually improved from day to day and on the eighth day the symptoms had apparently disappeared altogether.

A third dose of 150 million staphylococci and 75 million bacilli was inoculated on the evening of the eighth day in order to make assurance doubly sure. From that day now over three years ago there has been no recurrence nor any sign of trouble and the urine examined on that day was found to be free from pus and bacteria and has been normal ever since. THEO. DABROWSKI.

Stokes, A. C. Treatment of Tumors of the Bladder. *J. of S. & Cutan. Res.* 9:3 xvii 644. By Surg. Gynec. & Obst.

The author endeavors to point out the different methods of procedure of operations for tumor of the bladder depending upon the origin and position of the tumor.

The method of surgical attack preferred is the suprapubic region and in a certain number of cases transverse incision and in every case a wide incision at least should be made and the bladder well exposed.

The author does not seem to think that the electrical methods offer much hope in cancer but in cases of disseminated papilloma that have occurred occasionally he believes the DeKneating Hartmann current is exceedingly useful. In all doubtful cases however and most of them are doubtful he believes that the removal of the tumor by surgical methods is best wherever possible. Furthermore, he believes that tumors of the bladder should be diagnosed not only as to the fact of their existence but from the point from which they arise in the bladder and their treatment also should be governed by the point from which they arise.

Partial resection, wherever possible offers the best results, but dissection of the mucous membrane off of the walls of the bladder is occasionally valuable in sessile tumors when they are dotted over

different portions of the interior surface of the bladder

When the tumors arise from the prostate the prostate should be removed. In extensive carcinoma the total removal of the bladder is indicated with the implantation of the ureters into the rectum, which as yet offers the best method of procedure in these cases.

Each tumor of the bladder must be considered separately as having anatomical relations which require special consideration. It is believed that every tumor of the bladder is potentially malignant and should be so considered until proven otherwise if possible.

Bridoux, H. A Case of Adenoma of the Bladder with Remarks on the Pathology of the Affection. *Am J Urol* 1913, 12, 514.

By Surg. Gynec. & Obst.

The patient a laborer 48 years of age entered Rochet's Clinic at Lyons. The family and personal history was negative. He complained of colicky pains for some time but had noticed no calculi. The urine was thick, and a hemorrhage had occurred about three years before micturition was frequent and abundant; there was no retention and no incontinence.

The physical examination of the kidneys, abdomen, bladder and rectum was negative; no calculus was found by sound, but hematuria was found each time at micturition and the urine contained pus.

The patient was weak, had lost weight and was anemic. Upon opening the bladder by a transverse incision the surface was found literally riddled with small papillomatous tumors, varying in size from that of a hazel-nut to that of a walnut. All the growths that could be seen or felt were removed by curettage or cautery. The hemorrhage was so severe that the bladder was packed with iodoform gauze for ten minutes, after which the gauze was removed and a drain inserted. The patient died four days after the operation.

At autopsy the bladder showed signs of the recent operation; the ureters were dilated from about two inches above the bladder to the kidney and the walls were thin. The kidneys were cystic.

Microscopical examination of fragments of the tumor gave evidence of a pure adenoma with glandular tubules and stroma composed of young connective tissue.

The author discusses in detail the old question as to whether the bladder itself contains glands and concludes that it does not only in the trigone but also in the fundus, at least rudimentary glands, which are capable of undergoing change and producing adenoma or carcinoma. The epithelium lining these ducts is continuous in adenoma; the cells are columnar and often present laryngometric figures.

The author submits a new definition of adenoma, as follows:

These tumors are composed essentially of an agglomeration of elongated ramified glandular

ducts, lined with a continuous layer of columnar epithelium disposed in a single layer the ducts opening on the surface of the tumor into the bladder.

In the depth they become invaginated in the submucosa and even into the muscular structure and are seen either as full ducts ending in a rounded extremity without any acini or in the form of very minute cystic dilatations.

The author believes these tumors to be in many cases the forerunners of carcinoma. He distinguishes two microscopical types. First we have the circumscribed type in which the tumor is supported by a pedicle; secondly the diffuse sessile type.

These tumors may be found in any part of the bladder. In none of the tumors reported conforming to the above description, were metastases found. Chronic cystitis is a common accompaniment of these tumors. A. C. STOKES

Fulton, J. A. Gonorrhea Cured Through Use of Heated Bougie. *North-east Med* 1913, 340.

By Surg. Gynec. & Obst.

The author recommends in cases that allow it, the application of heat which is administered by inserting into the urethra a hollow bougie that is provided with an inlet and outlet tube both of which are armed with a thermometer in order to control the temperature of the water which should be 119° to 120° F. The water is forced through these tubes by means of a percolator each treatment to be of thirty minutes duration. For each treatment the urethra is prepared by irrigation with boracic solution followed by the application of a 4 per cent. tannic or cocaine solution.

The author asserts that in acute cases after one treatment the discharge becomes watery and this appears in twelve to fourteen days. Only one acute case lasted twenty-one days. In acute cases the author has never made more than two heat applications usually one. He has never been able to cultivate the gonococci after one heat application.

HARRY KEATS

GENITAL ORGANS

Farr, C. E. Strangulation of the Undescended Testis. *J. S. & Phila. G. J.* 1913, 338.

By Surg. Gynec. & Obst.

This condition may be brought about by torsion, linking or compression of the cord. It may occur at any age but is most common in the first decade following puberty. If treated it leads to aseptic gangrene, necrosis or more commonly simple atrophy. In animal the gland is completely lost after 2 hours of strangulation in men 75 per cent of the cases treated required castration and in nearly all of the remainder the testis sloughed or atrophied.

The mechanism of torsion of the cord is obscure. It usually follows trauma particularly of the femoral ring increased intra-abdominal pressure as trying straining at stool, heavy lifting and athletic

exercises Spontaneous untwisting of the cord is rare The number of twists varies from a half to four or more complete turns, averaging less than two With the onset of torsion there is usually a serosanguineous transudate into tunica vaginalis

The symptoms of torsion closely resemble those of strangulated bubonocoele even in some cases to the extent of complete obtipation but generally the symptoms are less severe the shock is less and the temperature and pulse are only slightly elevated the pain however is usually much more severe and vomiting is apt to recur repeatedly Preceding symptoms in a case in which the testis is absent from the scrotum should cause suspicion of strangulated testis It cannot however certainly be differentiated from Richter's hernia and has been mistaken for orchitis epididymitis and even in guinea adenitis Immediate operation offers the only hope of saving the testis and relieving the patient from intense suffering The prognosis for the patient is always good for the testis nearly always bad except in very early or very mild cases

The author reports 3 cases and gives data on 42 others collected from the literature

J B CARNETT

Shaw H B and Cooper R H On a Change Occurring in the Pelvis in a Child of Prepubertal Atrophy of the Testicles. *Lancet* Lond 93 1917 606 By Surg Gynec & Obst

The writers report a case of spontaneous eunuchism in a young man of 24 At the age of 7 it was noticed that the testicles were undescended and manipulations were advised At 17 they were still undescended and a truss was advised to force them down The testicles continued to diminish in size and at 24 were not to be felt except that there was a small sensitive nodule in the right side of the scrotum high up

The patient had no sexual desire erections had ceased to occur and there were no seminal emissions He was tall and slender his face was boyish voice high pitched head mesocephalic He had no beard no illary nor pubic hair his skin was soft there was sin hair on his forearms and his pomum adam was poorly developed

Measurements of the body showed the lower limbs to be eight and five eighths inches longer than those of a normal man of the same age

The external measurements of the pelvis are given followed by those of a normal subject of about the same age for comparison Interspinal 9 inches (control 9 inches) internal 10 inches (11 1/2 inches) external conjugate 7 inches (7 1/2 inches) between posterior superior iliac spines 4 inches (4 inches) between tubercles 3 inches (4 inches)

The brim of the pelvis showed a definite bulge inward in the neighborhood of the acetabula suggesting a lytic infiltration of the pelvis The contour of the internal iliac foramina and there was a wide separation of the pubic bones at the symphysis The rotation of the transverse to the anteroposterior

diameter of the inlet of the pelvis was as 57 to 67 in the radiogram

In commenting on the case the authors call attention to two interesting questions which arise First is the long limbedness due directly to disturbance of the internal secretion of the testicle or is it an indirect result and primarily dependent upon secondary changes produced in the pituitary body by the disturbed function of the testicles In other words is gigantism a function of disturbance of the pituitary body only

The second question is What is the cause of the unusual shape of the brim of the pelvis?

With regard to the first problem the features connected with castration in men and the production of eunuchism are clearly defined

Castration of men after puberty causes no morphological change in the individual because although internal secretion from the testicle is no longer possible the influence is carried out by paratesticular or extratesticular tissues which after puberty are endowed with the power of performing the part previously performed by the testicle alone

If castration is carried out before puberty is established then removal of the testicles means removal of the tissue which alone is capable of developing and maintaining the secondary sex characters

Castration before puberty results in the absence of development of sex characters The face is beardless the hair on the body is spare no hair develops about the anus, and pubic and axillary hair if present is scanty The bones are less dense the skull becomes dolichocephalic the limbs long The thyroid is reduced in size the thymus enlarges and the pituitary body shows increased activity

The narrowing of the pelvis may be explained in two ways it may be due to old rickets or as suggested by Deery a reversion to a lower type as met with in apes and the inward bulging in the neighborhood of the acetabula due to softening of the pelvic bones akin to osteomalacia which yields to the pressure transmitted to the heads of the femora The acetabular regions being the meeting point of the three bones ilium ischium and os pubis have shared in the delay in union noticed in the physal development in the body This want of solidification has led to the bones in these regions yielding to the increased thrust of the femora

H G HANSEN

Bulky A. V. Gigantism of the Testicles Retained within the Abdominal Cavity. *Lancet* Lond 93 1917 606 By Surg Gynec & Obst

The author reports two original cases of malignant abdominal testes and collects for the first time in the English language the literature of the world on the subject Fifty nine cases in all are reported In the first case male 42 years old there was no congenital deformity except double cryptorchidism no children and no traumatic history but

hypertrophied middle lobe acts as a hindrance to miction he recommends Bottini's operation

He recommends it in severe hypertrophy only when the general condition of the patient contra-indicates prostatectomy. In severe infection of the urinary passages especially in pyelonephritis, he prefers prostatectomy on account of the possibility of better drainage that it offers. If there is very marked abnormality of the kidney function only palliative operations such as cystostomy or vasectomy can be considered. **BREZNER**

Rush J O Gumma of Prostate and Bladder
Sⁱ Intravenous and On Intramuscular
Injection of Salvarsan and Twenty Sⁱ Intra-
venous Injections of Neosalvarsan Into Pa-
tient Sixty Six Years Old *Med Rec* 9 3
1921 28 By Surg Gynec & Obst

Rush reports a patient with gumma of the prostate and bladder who was treated with intravenous injections of salvarsan and neosalvarsan. The patient 66 years of age contracted syphilis in 1869. When he first presented himself to the author he told of his previous treatment and the administration of one intravenous injection of salvarsan after which he improved greatly. The author gave the patient six intravenous and one intramuscular injections of salvarsan followed by 16 intravenous injections of neosalvarsan at short intervals with the most beneficial results. The conclusions of the author follow:

1. Neosalvarsan should be given in larger doses and at shorter intervals covering a period of at least one year in all cases of tertiary syphilis.

2. In cases of gummata neosalvarsan alternated with mercury should be administered hypodermically for a period of not less than one year and where possible the neosalvarsan should be injected not longer than seven days apart.

3. Negative Wassermann reaction should not prevent the continuation of the treatment if benefit is noted by its continuation.

4. In gummata the Wassermann reaction may be faintly positive or negative, when the lesion is of serious nature and demands prolonged and consistent treatment. **S W M SCHAPIRA**

Cumston C G Some Remarks on Sarcoma of the Prostat *Am J Urol* 9 3 500
By Sⁱ Gynec & Obst

Cumston says sarcoma of the prostate is found most frequently in children under ten years of age and next in those over 50 a few instances having been reported as occurring between 10 and 30 years but none between 30 and 50 years.

Sarcoma is far less common than carcinoma. Infrequently it is secondarily involved and the primary focus has been found in the vesicles, right elbow, corpora cavernosa, and in the testicles. Complete retention is often the first symptom to require a physician being preceded by dysuria or incomplete retention.

There is no pain from the development of the tumor itself until finally it causes either urinary or bowel symptoms by obstruction either of the urethra or rectum.

There is frequently edema of the scrotum bulging of the perineum, swelling of the lower abdomen and sometimes of the limbs. By palpation the growth gives a sensation of fluctuation so much so that it has been mistaken several times for abscess and has been incised. The lymph nodes in the inguinal region are enlarged and the growth involves the bladder, urethra and ureters. Death usually occurs within a year from the time of urinary disturbance. These symptoms are far less pronounced in the aged. In a case reported by Marsh symptoms of intestinal obstruction were present and a colostomy was done.

The sarcoma may arise from any point of the prostate and may involve a part or the entire organ. It is to be differentiated from hydatid cysts of the pelvis by means of the eosinophilia and fixation reaction of Weinberg and Farvu which is positive in hydatid.

The author does not consider this condition one in which surgery can do more than a palliative operation and he recommends the complete perineal prostatectomy of Young as the operation of choice. **A C STOKES**

Cabot H F Factors Influencing the Mortality of Suprapubic Prostatectomy *S & Gynec & Obst* 9 3 689 By Surg Gynec & Obst

In the author's opinion three factors contribute most importantly to the mortality of prostatectomy: the anesthetic, the shock, aside from bleeding and the bleeding itself. Cabot believes that of the three anesthetics—ether, gas and oxygen and spinal—the last named is the best considered purely from the anesthetic standpoint. The best means of avoidance of shock is in this same spinal anesthesia in that it blocks the nerve impulses from the site of operation. He considers the proper control of bleeding even more important than is held ordinarily inasmuch as the ability to withstand operations rests on a delicately balanced mechanism and any undue loss of blood easily disturbs this and lowers the patient's resistance. Various methods of controlling bleeding are constant irrigation, packing and uterine. The first named method is too inaccurate, the second is a more accurate and certain method but any packing means tissue necrosis which in turn invites infection which is so large a factor in mortality.

Cabot believes that some form of suture is the most efficient method and his technique is as follows: A good freer incision than normal is used to give a good exposure, and the suture is applied to the torn edge of the bladder neck by using a small full curved needle carrying it into the cavity from which the prostate has been removed and bringing it out close to the pubic bone on either side. This is then carried to the floor of the bladder stopping

SURGERY OF THE EYE AND EAR

EYE

Darling (C): The Treatment of Trachoma with Special Reference to Expression and Friction with the Author's Ground-Glass Rod. *Ill. M. J.* 915: 361.

By Surg. Gynec. & Obst.

Darling has devised a ground glass rod to be used in the treatment of trachoma; its method of use being as follows:

Before using the rod the eyes are flushed out with a boric or 1/10,000 bichloride solution to get a good mechanical cleaning of the conjunctival sac. If a vigorous massage is to be given or the patient is very sensitive a 3 per cent cocaine solution in adrenalin is instilled although after a few treatments a rather severe treatment is well borne without anesthesia.

The upper lid is drawn down and away from the eye and the rod is introduced well up into the retro-tarsal fold, the smooth side next the cornea, and the rod is used without any medication or is dipped in the solution or ointment to be used.

The lid is pressed again to the rod by the thumb of one hand and the rod moved back and forth over the inner surface of the lid and retro-tarsal fold with the other. The lid is also stretched a little at the same time by pulling the rod forward.

The lower lids are treated in the same manner except that the lower lid is drawn up when the rod is introduced. This treatment may be applied every day at first and later less frequently. If all the follicles are not expressed after a few treatments they can be opened with a needle or knife point before the lid is massaged.

Prendergast (D): A Report of a Case of Congenital Cataract. *Cleveland M. J.* 19: 835.

By Surg. Gynec. & Obst.

Prendergast reports a case in an adult male aged 26 in which opacity of the lens developed beginning one week after a blow over the temple and becoming complete after the third week. There was no evidence of injury to the eye; the uvea appeared normal and no rupture in the capsule of the lens could be made out. No absorption took place after a delay of one month which indicated that the capsule was intact. No cataract resulted in complete absorption leaving a clear posterior capsule. The fundus was normal and the vision 6/60 with the correcting lens. The case was reported because of the rarity of congenital cataract without demonstrable injury to the capsule or other structures of the eye.

EARLE B. FOWLER

Snell (A. C.): Report of a Case of Dacryocystitis Presenting Several Complications, Including Orbital Abscess and Optic Neuritis. *J. M. J.* 1913: 21: 833.

By Surg. Gynec. & Obst.

In this case reported chronic dacryocystitis, with milky acute exacerbations, had existed for several years in a man 63 years old. At the first examination the sac was found to be large and the nasal duct impermeable so extirpation was advised. Six weeks later when seen again it was found that pressure on the eyeball caused a large quantity of pus to be discharged from a fistula which had formed at the lower end of the sac and a blunt probe could be passed through the lachrymal septum into the orbit two and one-half inches from the skin surface. Operation was delayed by the patient for over eight weeks and daily irrigations constituted the treatment during this period. Optic neuritis developed. Extirpation and drainage of the orbital infection resulted in cure and vision returned to 20/100. Orbital abscess as a result of direct extension on through the lachrymal septum a very unusual complication of dacryocystitis.

I. L. B. FOWLER

EAR

Cocks (G. H.): The Indications for Operation in Acute Mastoiditis. *J. M. J.* 1913: 21: 835.

By Surg. Gynec. & Obst.

The author states that difficulty arises in deciding when to operate in acute mastoiditis because some cases though presenting the cardinal signs of mastoid suppuration recover without surgical interference while others must be operated on early to preserve the hearing and to avoid labyrinthine and intracranial complications.

In differential diagnosis he considers the nasal discharge of considerable diagnostic value as it is generally conceded that the streptococcus and streptococcus morosus are more apt to cause acute mastoiditis than the pneumococcus and staphylococcus.

He considers the blood count valuable in determining the presence of intracranial complication and radiography valuable in furnishing information regarding the anatomy and pathology of the mastoid bone and in differentiating furuncle of the external and internal ear with edema from acute mastoiditis.

I. L. B. FOWLER

Tobey Jr. (J. I.): Acute and Chronic Suppurative Otitis of the Middle Ear. *Bull. M. J.* 19: 835.

By Surg. Gynec. & Obst.

The author discusses the subject under the following heads: (1) Acute otitis in childhood; (2) acute

otitis in adult life (3) treatment of the acute suppurations (4) chronic suppurative otitis and (5) complications and treatment of chronic suppurative otitis

Infections of the middle ear are more common in childhood because of the relatively shorter and larger eustachian tube which more easily allows infection to pass from the nasopharynx. The greater prevalence of the exanthemata is also responsible for the more common occurrence of this disease in childhood. The symptoms are variable but fall generally into two types. In the first type the symptoms are very acute the child otherwise apparently healthy screams with pain has a rapid and high rise of temperature often accompanied by convulsions and tosses about in bed occasionally it has retraction of the head and in fact may present symptoms of acute meningeal irritation. In the second type the child suffers from a gastro intestinal disturbance irrespective of diet, is very restless and irritable has marked variations of temperature will occasionally cry out as if in pain loses weight and yet manifests no acute symptoms as in the first type.

The diagnosis of otitis media in childhood is usually easily made by a careful examination of the ear drum. The treatment consists in careful cleansing of the canal paracentesis of the drum and careful aseptic after treatment. If the discharge is slight the author ad ocates merely the insertion rather frequently of small strips of sterile gauze. If the discharge is profuse he uses irrigations of hot sterile water.

The symptoms of otitis in the adult are first a sensation of fullness and a diminution of hearing in the affected ear due to the accumulation of exudate and closing of the eustachian tube followed in a few hours by sharp lancinating pains, increasing until they are excruciating and often described as boring in character. Examination of the drum at this stage will show a much reddened drum which may be slightly bulging. Irrigations of the external canal with hot douches inflation with the Politzer bag and free catharsis will often effect a cure at this stage. However if the patient is seen a few hours later the drum may be distinctly bulging and a paracentesis then be necessary.

The treatment of acute otitis media may be divided into two stages treatment of the simple middle ear infection and secondly treatment after involvement of the mastoid. The treatment of the acute simple otitis has already been outlined. Immediate operation is called for (1) in the presence of a postaural abscess or an evident infection of the neck, (2) upon the occurrence of a facial paralysis (3) upon the advent of symptoms of labyrinthitis and (4) upon the appearance of symptoms of intracranial involvement. The type of operation depends upon circumstances but in a large number of cases the best result are obtained from the radical procedure.

In chronic suppurative otitis the conservative treatment consists in the removal of all tissue which might interfere with efficient drainage such as adenoids, bony obstructions in the nose and aural polypi. Douching of the ear with warm water is followed by instillation of a few drops of a saturated solution of boric acid in alcohol. The vast majority of cases will respond to this treatment but in cases where this method is of no avail the removal of the drum membrane together with the malleus and incus and the removal of all granulation tissue with in the tympanum often results in a cure. But in a certain percentage of cases the radical operation is necessary to effect a cure. J H SKILES

Pierce N H: Diagnosis and Treatment of Meningeal Complications of Suppurative Diseases of the Temporal Bone. *Ill m J* 19 3
xiv 35 By Surg Gynec & Obst

In the diagnosis of otitic meningitis the author emphasizes the various ways by which inflammation spreads to the meninges. First by way of the labyrinth through necrosis of the external semicircular canal next through the promontory of the fenestra rotunda, osteitis of the roof of the antrum and cavum and sinus phlebitis.

That the infection is by way of the labyrinth is demonstrated by the vertigo vomiting and nystagmus which occur just before or many months before the meningeal symptoms. The most frequent symptom is headache followed by stiff neck and in 75 per cent of cases the Kernig sign and in 53 per cent the Babinski sign.

These symptoms may be present in either a serous meningitis or a septic meningitis and the differentiation of these two conditions has an important bearing on the method of therapeutic surgical attack. In serous meningitis the spinal fluid is alkaline and reduces copper. In septic conditions sugar is absent and the fluid acid. Round and polymorphonuclear cells and micro-organisms may be present in both fluids but in serous meningitis the organisms are dead, and in septic meningitis they are capable of cultivation. The mortality is over 90 per cent and therefore prophylaxis is of great importance.

Early operation on acute mastoid cases will prevent extension of the inflammation and in chronic cases early signs are warnings that the meninges are becoming irritated. When the symptoms of serous or septic meningitis are in full sway evacuation of the focus within the mastoid and middle ear is essential. If the diagnosis is not clearly septic meningitis the dura should not be opened. Cerebrospinal pressure may be relieved in the lumbar region. If however the meningitis is septic the subdural space is drained at the point of invasion — through the mastoid wound or outside the mastoid wound (1) through the squamous portion of the temporal bone or (2) through the occipital region namely via the cisterna magna. W H THEOBALD

SURGERY OF THE NOSE, THROAT, AND MOUTH

NOSE

Ferreri C. Treatment and Prognosis of Malignant Tumors of the Nasal Fosse and Hypopharynx (Traitem et prognostic de tumeurs malignes des fosses nasales et de l'hypopharynx)
Arch. fr. et d. laryngol. 1913, 2, 371, 372
By Journal de Chirurgie

The author in view of the difficulty of operation and the numerous failures in the surgical treatment of extensive cancers thinks that no non-surgical procedure should be neglected which will secure improvement even if not cure in such cases and he devotes the first part of his work to a study of such methods.

There is so little known of the etiology of cancer that it is difficult to establish rules for prophylaxis but there is no doubt that chronic irritation such as that caused by the extensive use of tobacco is partly responsible.

If operation is refused or the tumor is too far advanced for operation medical treatment may be given with two objects (1) To act on the cancer germs destroying or attenuating the atypical or bacterial cells and (2) to strengthen the power of resistance of the diseased body.

In all cases where carcinoma of the nose has spared the bones of the face, Price-Brown believes it can be completely destroyed by the galvanocautery.

In inoperable cancers electrolysis is indicated for it does not do any great harm and destroys the greater part of the tumor.

Fulguration is difficult to apply in the nose and pharynx and it provokes an excessive and toxic flow of lymph the drainage of which cannot always be accomplished successfully.

Electrocoagulation by the local application of high frequency currents causes destruction of distant tissues and profuse secondary hemorrhage.

Under the influence of X rays, the cancer-cell undergoes a process of involution therefore the X ray treatment is applicable to malignant tumors of the nose that have attacked the skin.

Radium treatment is at present regarded as one of the best anti-cancer agents. It is applied in radiations of various strengths, either to the surface of the tumor or to its interior. Mesothorium costs only half as much as radium and gives good results sulphate and bromide of radium and actinium have also been injected into tumors. Arsenic cannot be utilized for the local treatment of cancers of the nose and pharynx. Among the substances that are known to have an effect on cancer cells are selenium tellurium and copper.

C. LAURENS.

Pratt J. A.: The Etiology of Hypertrophic Rhinitis. *Ill. med. J.* 1913, 23, 545
By Surg. Gynec. & Obst.

Pratt takes issue with the accepted view that hypertrophy of the inferior turbinate is caused by increased negative pressure and irritation from direct pressure caused by deviation of the septum. He points out that this cannot be the case since the hypertrophy is always found on the side of the concavity and negative pressure is precluded from the fact that the individual so affected becomes a partial mouth breather. When the septum is normal the author believes localized hypertrophy is caused by the irritation of abnormal secretions, as in sinus diseases.

If no such disease exists, he thinks it due to an irritating condition of the blood due to auto-intoxication. He calls attention to the fact that if the septum be straightened the turbinate, whether atrophic or hypertrophic will return to its normal size without treatment. As the amount of blood to a part determines whether it shows hypertrophy or atrophy so either will take place according to the increase or decrease of the amount of air passing through the nasal cavity.

GEORGE M. COATES

Levy R. Diagnosis and Indications for Treatment of Suppurative Diseases of the Nasal Accessory Sinuses. *Dent. M. T.* 1913, 22, 214
By Surg. Gynec. & Obst.

The author considers it necessary to bear in mind not so much the acute suppurative inflammations of the nasal accessory sinuses, which are comparatively easy to diagnose and usually yield to medical treatment but the chronic lesions which manifest trivial symptoms designated as latent until an acute exacerbation of the chronic lesion threatens the life of the patient unless prompt surgical measures are taken.

He thinks the accessory sinuses should be carefully studied in those patients presenting symptoms of nasal discharge or polyp, periodical localized headache or eye symptoms unaccounted for by errors of refraction and diagnosed by means of local examination, transillumination, exploratory puncture or radiography.

He considers the indications for surgical interference to be evacuation of the sinus contents, the establishment of free drainage, and the removal of diseased structures. He deems the choice of operation to be a matter of judgment based upon experience.

ELLY J. PATTENSON

Ostrum L. Ventilation Rather than Drainage
Essential for the Cure of Sinus Disease with
Special Notes on the Antrum of Highmore
Illness M J 1913 xii 347

By Surg Gynec & Obst

Ostrum points out that as shown by the Cooper and Kister methods of operating on the antrum drainage alone is not sufficient for a cure but that on the contrary ventilation is sufficient in most cases. Especially is this true in the study of non suppurative sinusitis in which the question of drainage is not an issue. The author describes in detail the operation on the maxillary antrum through the middle nasal passage and claims much better results than in those cases where the opening is made below the inferior turbinate. The anterior end of the middle turbinate is removed and the normal ostium sought. Ostrum's reverse antrum forceps are introduced into this and a large opening made forward backward and downward avoiding injury to the lachrymal canal the entire operation taking but five minutes. A similar procedure may be carried out through the inferior meatus except that a trocar must be used to procure the primary opening. After treatment consists simply in cleanliness.

GEORGE M COATES

Robertson A N: Chronic Mucocele Practitioner
London 913 xii 875

By Surg Gynec & Obst

The author considers chronic mucocele as an abscess cavity a chronic suppuration subject to acute exacerbations. As such drainage is the rational treatment and to obtain this the inferior canaliculus affords in many cases the only means. To facilitate drainage by way of the inferior canaliculus Robertson has devised a small silver tube with one end in the form of a semicircular gutter. When inserted after slitting the canaliculus this prevents reunion of the raw cut-surfaces and the tube affords an easy means of irrigation. After the purulent discharge has cleared probes and styles are used to open and retain the patency of the nasal duct.

FARLE B F WILK

Gleason F B: Indications for the Correction of
Deviations of the Nasal Septum by the
Gleason Operation *Laryngoscope 93 xii 19*

By Surg Gynec & Obst

The author advances the superiority of his operation for the correction of deviations of the septum with its adaptability to patients of all ages and the speed with which it can be done in comparison with the submucous operation which is suitable only in selected cases and frequently results in perforation.

The technique of the Gleason operation is as follows. After thorough cocaine anesthesia a nasal saw is engaged in the obstruction in a horizontal plane gradually tilted until the direction of the sawing is vertical thus making a U shaped incision in the septum extending well anterior and posterior to the deviation. The lower edge of the flap is then pushed into the unobstructed nostril at the neck of the

flap breaks thus destroying its resiliency upon which depends the success of the operation.

ELLEY J PATTERSON

THROAT

Ellenthal H: Retropharyngeal Abscess the
Safest Method of Drainage *Med Times 913*
xii 355

By Surg Gynec & Obst

In dealing with this condition which may result from vertebral or occipital osteomyelitis and such bulging phlegmons from pharyngeal or faucial tissues as are frequently seen in children the author advocates incision and drainage from the outside.

The patient is usually in great distress with embarrassed respiration and deglutition and immediate action is necessary to prevent asphyxia or threatened oedema of the glottis. The apparently harmless procedure of opening the abscess from within or allowing it to rupture may cause a fatal spasm from the pus entering the larynx, or be followed by fatal aspiration pneumonia. As general narcosis is extremely dangerous the author employs either alypin or novocaine.

The instruments required are a scalpel at least two artery clamps a pair of small sharp retractors a pair of scissors an aspirating syringe with long needle a grooved director and a thin bladed dressing forceps. A tracheotomy tube should also be at hand. The patient should be upon a hard padded table with a thin hard pillow beneath the shoulders. The local anesthetic is injected along the line of proposed incision, and the incision about one inch long is made parallel to the posterior border of the sternocleidomastoid in its upper part, extending through the superficial and deep fascia and platysma. Deeper dissection is then made with a blunt instrument exploring from time to time with a gloved finger avoiding especially the internal jugular vein. The aspirating needle is then plunged into the tense abscess, when a few drops of pus are aspirated just enough to make sure that the needle is within the main abscess remembering that there may be smaller abscesses in that region due to a breaking down of lymphatic glands. Being assured that the needle is properly placed the grooved director should not be removed until the tube is carried to the bottom of the cavity and secured by suture to the skin or otherwise.

The symptoms will rapidly subside and if they recur within a day or two it indicates that the tube has been displaced which displacement should at once be corrected. If the symptoms do not abate it is to be suspected that there is an undrained focus or general septic poisoning. The safety of the above operation even though more troublesome than the evacuation through the mouth recommends it.

II A PORTS

Leland G A: The Development and Extension
of the Limits of Laryngology *Laryngoscope 93*

By Surg Gynec & Obst

After extending greetings to the members of the society the author in his presidential address to the

SURGERY OF THE NOSE, THROAT, AND MOUTH

NOSE

Ferreri G. Treatment and Prognosis of Malignant Tumors of the Nasal Fosse and Hypopharynx (Traitement et pronostic des tumeurs malignes des fosses nasales et de l'hypopharynx) *Arch. néerol. d. laryngol.* 1913 xxx: 337.
By Journal de Chirurgie

The author in view of the difficulty of operation and the numerous failures in the surgical treatment of extensive cancers, thinks that no non-surgical procedure should be neglected which will secure improvement even if not cure in such cases and he devotes the first part of his work to a study of such methods.

There is so little known of the etiology of cancer that it is difficult to establish rules for prophylaxis, but there is no doubt that chronic irritation such as that caused by the extensive use of tobacco is partly responsible.

If operation is refused or the tumor is too far advanced for operation medical treatment may be given with two objects: (1) To act on the cancer germs destroying or attenuating the atypical or bacterial cells, and (2) to strengthen the power of resistance of the diseased body.

In all cases where sarcoma of the nose has spared the bones of the face, Price Brown believes it can be completely destroyed by the galvanocautery.

In inoperable cancers, electrolysis is indicated for it does not do any great harm and destroys the greater part of the tumor.

Fulguration is difficult to apply in the nose and pharynx and it provokes an excessive and toxic flow of lymph the drainage of which cannot always be accomplished successfully.

Electrocoagulation by the local application of high frequency currents causes destruction of distant tissues and profuse secondary hemorrhage.

Under the influence of X-rays, the cancer-cell undergoes a process of involution, therefore the X-ray treatment is applicable to malignant tumors of the nose that have attacked the skin.

Radium treatment is at present regarded as one of the best anti-cancer agents. It is applied in radiations of various strengths either to the surface of the tumor or to its interior. Mesothorium costs only half as much as radium and gives good results. Sulphate and bromide of radium and actinium have also been injected into tumors. Arsenic cannot be utilized for the local treatment of cancers of the nose and pharynx. Among the substances that are known to have an effect on cancer cells are selenium, tellurium and copper.

Pratt J. A. The Etiology of Hypertrophic Rhinitis. *Ill. med. J.* 1913 xxv: 345.
By Surg. Gynec. & Obst.

Pratt takes issue with the accepted view that hypertrophy of the inferior turbinate is caused by increased negative pressure and irritation from direct pressure caused by deviation of the septum. He points out that this cannot be the case since the hypertrophy is always found on the side of the concavity and negative pressure is precluded from the fact that the individual so affected becomes a partial mouth breather. When the septum is normal the author believes localized hypertrophy is caused by the irritation of abnormal secretions as in sinus diseases.

If no such disease exists he thinks it due to an irritating condition of the blood, due to auto-intoxication. He calls attention to the fact that if the septum be straightened the turbinate whether atrophic or hypertrophic will return to its normal size without treatment. As the amount of blood to a part determines whether it shows hypertrophy or atrophy so either will take place according to the increase or decrease of the amount of air passing through the nasal cavity.

GEORGE M. COATES

Levy R. Diagnosis and Indications for Treatment of Suppurative Diseases of the Nasal Accessory Sinuses. *Dental Times* 913, xxxii, 24.
By Surg. Gynec. & Obst.

The author considers it necessary to bear in mind not so much the acute suppurative inflammations of the nasal accessory sinuses which are comparatively easy to diagnose and usually yield to medical treatment but the chronic lesions which manifest trivial symptoms, designated as latent until an acute exacerbation of the chronic lesion threatens the life of the patient unless prompt surgical measures are taken.

He thinks the accessory sinuses should be carefully studied in those patients presenting symptoms of nasal discharge or polypi, periodical localized headache or eye symptoms unaccounted for by errors of refraction and diagnosed by means of local examination, transillumination, exploratory puncture, or radiography.

He considers the indications for surgical interference to be evacuation of the sinus contents, the establishment of free drainage and the removal of diseased structures. He deems the choice of operation to be a matter of judgment based upon experience.

ELLEY J. PATTERSON

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H GROVES Bristol Med-Chir J 19 3 xxxi 347

thirty fifth annual meeting of the American Laryngological Association reviewed the enormous widening of the field of laryngology from the mere looking into the larynx with the laryngoscope until with the discovery of cocaine and subsequent addition of the nose and adnexa, and the advent of endoscopy and studies of the pituitary body, the confines of laryngology have been extended to embrace most of the upper half of the body.

He spoke about the rapid strides made recently in preventive medicine and the notable advance in the perfection of endoscopy and urged the wider dissemination of papers on laryngology in order that they may come under the notice of the general practitioner and thus lead to early recognition of dangerous conditions which should be referred to the laryngologist.

ELLEN J. PATTERSON

MOUTH

Gaudier Lane's Autoplastic Operation on the Palate (Pal topoplasti par le procédé autoplastique de Lane) *Cong d lats f n d ch l'ar 10 3 Oct*
By Journ l d Chirurgie

Gaudier briefly describes Lane's method of closing congenital clefts of the palate. It consists in the dissection of an osseous flap from the bony and membranous palate which is turned as on a pivot around the free edge and sutured to the opposite side inserting it under the fibromucous covering of the bony palate which has been dissected previously and to the divided veil of the palate.

Lane's method demands special instruments and great skill for he operated on very young infants immediately after birth if possible. The originality of the procedure lies in this very point, for by using it in infants there being no teeth he could utilize a part of the gums for the formation of the flaps.

Gaudier gives the results of his use of the method for three years on 30 cases. This is a very small number compared with Lane's for it has not yet become customary in France to operate on such young children. Of the 30 operations only 13

were on children less than two years old. The others were on older children with narrow clefts, and Lane's operation was used in spite of the fact that they had teeth but without encroaching on the gum. The mortality among the 13 under two years of age was 4. Of the 16 remaining cases there was total failure of union twice and partial, four times.

J. DEXON

Federalel M. N.: Some Observations on Oral Abnormalities and Their Relation to Medicine and Surgery. *Ill M J 1913 21 25*

By Surg Gynec & Obst.

Dental disorders are becoming of more interest to medical men and the importance of mouth hygiene is being given due consideration along the lines of prevention. The dentist is usually consulted long after dental caries has begun when the family physician might have detected the trouble in its early stages. Dental caries is largely due to errors of diet during the first twelve years of life. Statistics show that from 90 to 100 per cent of school children are suffering from diseases of the teeth. Many secondary conditions arise from these disorders and probably many diseases of unknown origin may be due to tooth infection since the major portion of pyogenic micro-organisms affecting the body enter through the mouth. Osler says that septic gastritis and enteritis as well as appendicular pleuritis, gall bladder and pyelitic inflammations are due largely to infection from the mouth. Wigman and Turner believe suppurative alveolar periodontitis to have been the causative factor in the majority of 42 cases of rheumatism and gout studied. The masticatory function is important in the proper development of the jaws since chewing only soft substances does not exert enough pressure on the growing parts to ensure their proper formation. Other causes of improper development are the early loss or the prolonged retention of the deciduous teeth. Proper correction aids much in the reduction of mouth breathing.

GEORGE M. COHEN

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SURGERY OF THE EYE AND EAR

Eye

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cranial mycotic abscess following t BASTOY Rev d med y cir de la Habana 1913 xviii N 17

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SURGERY OF THE NOSE THROAT AND MOUTH

Nose

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Throat

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Mouth

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TABLE OF CONTENTS

I	INDEX OF ABSTRACTS OF CURRENT LITERATURE	III
II	AUTHORS	III
III	MONTHLY CRITICAL REVIEW	449-456
IV	ABSTRACTS OF CURRENT LITERATURE	457-530
V	ABSTRACTS OF PAPERS READ BEFORE AMERICAN SURGICAL ASSOCIATION	531-538
VI	BIBLIOGRAPHY OF CURRENT LITERATURE	539-564

ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

Anesthetics

CLARK G H	Chloroform Anesthesia in the Light of Physiological Research	457
DANTS R	Sacral Anesthesia in Operations on the Perineum and True Pelvis	457

SURGERY OF THE HEAD AND NECK

Head

DEPAGE	Uranoplasty by Transplantation of Flap from the Upper Lip	457
DELORÉ AND SARTY	Bilateral Arteriosclerosis of the Temporo-Maxillary Articulation Successfully Treated by Double Resection of the Neck of the Condyle	458
LIEBERG C A	Some Immediate and Remote Results of Fractures of the Skull and Spine	458
LANDOW L H	Hemostasis in Cranial Surgery	458
MARIE M P	Trephining the Healthy Hemisphere for Decompression in Some Cases of Cerebral Hemorrhage	459
TROM S W S	Experimental Hydrocephalus	459

Neck

OSBORN E	Irradiation of the Thyroid	459
WILSON I B	Relation of the Pathology and Clinical Symptoms of Simple and Exophthalmic Goiter	460
SANFORD A H and BLACKFORD J M	A Comparative Study of the Effect on Blood Pressure of the Extracts and Serums of Exophthalmic Goiter and of Other Substances	460
MILLER D	Further Observations and Experiment on the So Called Thyroid Carcinoma in Brook Trout Its Prevention and Cure	460
MILLER D	Observation on Tetany in Dogs	460

SURGERY OF THE CHEST

Chest Wall and Breast

JONES S	Chronic Cystitis	46
JOHNSTON	Removal of the Thymus and Its Result	46

MAYNARD C	The Association of Acute Infantile Illness in Infants and Children with Abnormal Constitution Status Lymphaticus	461
-----------	--	-----

Trachea and Lungs

CRANE A W	X-Ray Examination of the Lungs	462
-----------	--------------------------------	-----

Heart and Vascular System

LEPOREK M J	Influence on the Heart's Action of Mechanical Injury of the Surface of the Heart	463
ROTHERY	Treatment of Wounds of the Heart	464

Pharynx and Esophagus

LAMBERT A V S	Treatment of Diffuse Dilatation of the Esophagus by Operation Description of a Hitherto Unpublished Method Report of a Case	464
MEYER W	Extrathoracic and Intrathoracic Esophageal Connection with Resection of the Thoracic Portion of the Esophagus for Carcinoma	465
LYON E	Surgery of the Thoracic Part of the Esophagus	465

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum

SCHAREZEN B C	Topographical Anatomical Description of the Umbilical Region and Its Relation to the Origin of Traumatic Inguinal Hernia	466
SCHWARTZ E S	Typical Treatment of Ascites	466
SEELEY M G and TAYLOR E L	The Inguinal Root for Femoral Hernia with Supplementary Not on Cooper's Ligament	466
LEVIN E O	A Case of Solitary Rupture of the Ventricle	467

Gastro-Intestinal Tract

LANGF S	Practical Value of X-Ray Examination of the Stomach	467
LIPPINCOTT G B	Incidence and Diagnosis of Complicating Factors in Gastric and Duodenal Lesions	468
MAYNARD W J	Chronic Ulcers of the Stomach and Duodenum	469

INTERNATIONAL ABSTRACT OF SURGERY

STEVENHARTER, E C Experimental Production of Gastric Ulcers by Intravenous Injection of Clumped Colon Bacilli	469	STRONG Treatment of Tuberculous of the Joints of the Foot and Its Results	480
RICHTER, H. M Congenital Pyloric Stenosis a Study of Twenty Two Cases with Operation by the Author	470	ROBINSON W Torn Semilunar Cartilages	481
VAN LEEUWEN W B Jejunostomy	470	Fractures and Dislocations	
DIERICKX M The Mechanism of Invagination of the Intestine	471	PECKERMAN Mechanical Treatment of Some Fractures	481
CORF V Z The Early Diagnosis and Treatment of Ruptured Intestine	471	MACQUEEN E P The Treatment of Ununited Fractures and Pseudarthroses with Injections of Penosteum Emulsion	481
ZANDER P Critical Review of the Appendicitis Cases for the Last Three Years at the Surgical Clinic of the University of Halle S	472	COLVET A R Fractures of the Tibia and Fibula of the Ankle-Joint	482
BENDER P A AND BLYTHING, J D Pneumatic Rupture of the Bowel	472	YOUNG Recurrent Anterior Dislocation of the Shoulder	483
ROTTER J Surgical Treatment of Carcinoma of the Colon	473	THOMAS T T Habitual or Recurrent Dislocation of the Shoulder Eighteen Shoulders Operated on in Sixteen Patients a New Auxiliary Operation	483
THEIRRELL, E. H The Radical Treatment of Hemorrhoids under Local Anesthesia	473	SHERMAN H M Congenital Dislocation of the Hip a Rational Method of Treatment	483
Liver Pancreas and Spleen		Surgery of the Bones Joints Etc.	
MÉYER, E Large Tubercular Abscess of the Liver and Its Clinical Diagnosis	473	VAN DYKE E S Deductions from Our Experience at the Hospital of the Good Shepherd in the Open Treatment of Fractures	484
		MOOREHEAD J J Transfusion Treatment of the Shaft of the Femur Dislocation of the Elbow with Compound Fracture of the Forearm	484
		SPITZEL, N Accidents: Nail Extension	484
		VOYE, JONASSEN, RENDU A AND MICHEL, P Four Cases of Codivilla's Nail Extension in the Treatment of Fracture of the Femur in Children	485
		BRICKNER W M Metal Bone-Plating a Factor in Union Autoplastic Bone-Grafting to Ligate Osteogenesis in Non Union of Fractures	486
		ALBERT, F H The Inlay Bone-Graft as Treatment of Ununited Fractures Report of Fifteen Successful Cases	486
		OSGOOD A Method of Osteotomy of the Lower End of the Femur in Cases of Permanent Flexion of the Knee-Joint	486
		MCWILLIAMS C A The Periosteum in Bone Transplantation Is Contact with Living Bone Necessary for the Life of Grafts and Will Transplanted Periosteum Produce New Bone?	486
		PERDUE W A A Case of Fat Transplantation in Bone Cavity	487
		RENN E Replacement of Tendons	487
		NORTON W A An Improved Method of Hemostasis in Shoulder and Hip-Joint Amputations	487
		Orthopedics in General	
		CANTAR, M P Pathogenesis of Modeling Deformity	488
		LOVELL R W Principles of the Treatment of Infantile Paralysis	489
		BLANCHARD Neglected Infantile Paralysis	489
		STOFFEL, A Treatment of Spastic Paralysis	489
		DAVIS G C Treatment of Pseudoepithelioma by Operative Measure	489
		MARSHALL H W Old and Recent Ideas Concerning Treatment of Flat Foot	490
		MCILLIEN W P A Flat Feet and What They Lead To	490

SURGERY OF THE EXTREMITIES

Diseases of the Bones, Joints, Muscles Tendons Conditions Commonly Found in the Extremities.

GALLIE, W E and ROBERTSON, D F The Perosteum	474
WAGNER C A Family Chondrodystrophy Etiology and Pathogenesis of Chondrodystrophy	474
MUTZEL Pathogenesis of Idiopathic Cysts of Bone and Swollen Callus	474
HALLER Osteomyelitis of the Astragalus	475
FITZWILLIAM D C L Syphilitic Affection of Bones in Childhood	475
BOORSTEIN S W Syphilis of Bones and Joints, with a Report of Ten Cases	475
PROCTOR, R Surgical Treatment of Infections of the Palm of the Hand	476
OSBERT A Focal Tuberculosis of the Bones of the Extremities with Special Reference to Its Metaphyseal Location	477
HAMMOND H Iotherapy (Roller) as Adjunct in the Treatment of Bone Disease	478
SEGALL C The Regeneration of the Synovial Membrane and the Joint Capsule	478
BULEVY A Pneumococci Arthritis	479
ROSE V P C Relation of the Lesion Produced by the Various Forms of Streptococci with Special Reference to Arthritis	479
BILLINGS P Clinical Aspect and Medical Management of Arthritis Deformans	479
GILLETTE A J The Importance of Orthopedic Treatment in Tuberculous Joints Based upon Twenty Years Experience in Four Thousand and Ten Cases	480
ELLIS H The Treatment of Tuberculosis of the Knee Joint and Its Results	480

- HARRIS J R Flat Feet the Etiological Relation of Posture and Gait Thereto 491
- RYANOV E W Recent Advances in Orthopedic Surgery 491

SURGERY OF THE SPINAL COLUMN AND CORD

- ROTH R E Spinal Curvature 492
- MAYET A D DELAPCHIER, R. Scoliosis and Chronic Appendicitis 492
- CONVELLY C B Typhoid Spine with Report of a Case Complicated by Thrombophlebitis of the Left Femoral Vein 492
- CALVÉ AND LELIEVRE Radiography of the Vertebral Column in Pott's Disease 492
- POTEL, G. AND VEAUDEAU Surgery of Tumors of the Spinal Column and Cord 492
- POISSER L M Diseases of the Cauda Equina and Their Operative Treatment 493
- HUVER Experience with Forster's Operation 493

DISEASES AND SURGERY OF THE SKIN FASCIA APPENDAGES

- KOLB K Experimental Study of the Contraction of Transplanted Fascia and Its Significance in Plastic Operations and Around the Intestine 493

MISCELLANEOUS

- Clinical Entities—Tumors Ulcers Abscesses, Etc
- ROTH P AND MURPHY J B On the Causation by Filterable Agents of Three Distinct Chicken Tumors 493
- BREM W V Treatment of Tetanus by the Rational Method of Ashurst and John the Devel-

- ment of Suppurative Serum (Aseptic) Meningitis, Following the Intraspinal Injection of Tetanus Antitoxin with Report of Case 495

Blood and Lymph Vessels

- DISEN ARDO A L Traumatic Arteriovenous Aneurysm of the Common Carotid and the Left Internal Jugular Extirpation Recovery 495
- MIKOTOWICZ S R Ligation of the Carotid Artery in Human and Experimental Pathology and Its Relation to the Collateral Circulation 496

Poisons

- MITCHELL A P The Infection of Children with Bovine Tubercle Bacillus 496
- MASSINI R Methods of Culturing Anaerobic Bacteria and Their Clinical Importance as the Cause of Intestinal Suppuration Especially of Putrid Empyema 497
- TEN BROECK, L L A Rapid Method of Isolating Pathogenic Streptococci from Contaminated Fields 497

Surgical Therapeutics

- MACFARLAND Notes in the Study of Potassium Mercuric Iodide 498

Electrology

- MORROW R Discussion on the Technique and Standardization of Bismuth Meals 498
- SNOOR I J X-ray Therapy 498
- FRANKE B E Present Day Danger of Röntgen Ray Burns and How to Prevent Them 499
- RECHL G Carcinoma and Radium 499
- DEFFENBACH, W H Radium in the Treatment of Cancer 500
- SCHINDLER O Radium and Mesothorium in Treatment of Malignant Tumors 500

GYNECOLOGY

- Uterus
- VON HAUSSERMAN D Precancerous Conditions 501
- SCHERER, A AND KELLY B Treatment of Cancer of the Uterus with Röntgen and Radium Rays 501
- CRIVORRA A Uterus and Ovaries after Röntgen Treatment Case of Ovarian Tumor after Hydrotomy 501
- WEIDEL Operative Treatment and Results in Carcinoma of the Uterus 501
- SCOTT, I Uteroids in the Human Uterus 501
- WEISS I A Some Diagnostic Errors in Differential Lesions of the Cervix 501
- HITSCHMANN F AND ADLER L Study of the Normal and Inflamed Uterine Mucosa of Domestic Animals with Special Reference to Irregular Hemorrhage from the Uterus 501
- JASCIEK K T Symptom Complex of the Climacteric and Its Relation to General Medicine 501
- MAYER, T The Intranasal Treatment of Dysmenorrhea with Report of Ninety Three Cases 501

- DEAN J M Operative Procedure in the Treatment of Uterine Displacement 504
- DOUGLASSON H R A New Remedy on Uterine Prolapse 504
- BYFORD H T Choice of Operations for Retroversion of the Abdominal Cavity Opened 505
- RYAN V P One Hundred Cases of Ventrofixation of the Round Ligament by the Author's Own Method and 100 Cases of Adam's Operations with the Dured Silk Sutures without Recurrence 505
- SIGWIT W Results of the Cranioplastic Vessels in the Abdominal Radical Operation 505

Adnexal and Peritoneal Conditions

- DOUGLASSON, W T Corpus Luteum Ovariothorax: Clinical Practice with Report of Case of Bilateral Salpingo-Oophorectomy in which the Administration of Corpus Luteum Extract was followed by the Reestablishment of Menstruation 506
- HITCHCOCK J Treatment of Disturbances of the Internal Secretion of the Ovary with Glandularin 506

MURPHY F T Choice of Anesthetic in Operating for Abscess of the Lung Report of Two Cases Operated upon under Local Anesthesia	535	posed Method of Treating Empyema without Resort to Pneumothorax	536
LELIENTHAL H Pulmonary Abscess and Bronchiectasis a Clinical Report	536	HUNTINGTON T W Uncomplicated Tuberculous Focus in Bones and Their Treatment	537
MAYO C H AND BECKMAN E H Visceral Pleur ectomy	536	LOTZOROF H A Frontal Sinus Suppuration Establishment of a Permanent Nasal Drainage Closure of External Fistula Epidermization of Sinus	537
MACKENIEF K A J Double and Anomalous Forms of Empyema a Preliminary Report on a Proposed Method of Treating Empyema without Resort to Pneumothorax		LIARTMAN H The Gastro Intestinal Mouth in Cases of Permeable Pylorus	538

BIBLIOGRAPHY

GENERAL SURGERY

SURGICAL TECHNIQUE

Operative Surgery and Technique	539
Aseptic and Antiseptic Surgery	539
Anesthetics	539
Surgical Instruments and Apparatus	540

SURGERY OF THE HEAD AND NECK

Head	540
Neck	541

SURGERY OF THE CHEST

Chest Wall and Breast	542
Trachea and Lungs	543
Heart and Vascular System	543
Pharynx and Esophagus	543

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum	544
Gastro-Intestinal Tract	545
Liver, Pancreas and Spleen	546
Miscellaneous	549

SURGERY OF THE EXTREMITIES

Diseases of Bones, Joints, Muscles, Tendons	
General Conditions Commonly Found in the Extremities	549
Fractures and Dislocations	550
Surgery of the Bones, Joints, etc	55
Orthopedics in General	55

SURGERY OF THE SPINAL COLUMN AND CORD

55

SURGERY OF THE NERVOUS SYSTEM

552

DISEASES AND SURGERY OF THE SKIN, FASCIA, APPENDAGES

553

MISCELLANEOUS

Clinical Entities—Tumors, Ulcers, Abscesses, etc	553
Sera, Vaccines and Ferments	554
Blood	555
Blood and Lymph Vessels	555
Poisons	555
Surgical Therapeutics	556
Surgical Anatomy	556
Electrology	556
Military and Naval Surgery	557

GYNECOLOGY

Uterus	557
Adnexal and Peritoneal Conditions	558
External Genitalia	558
Miscellaneous	558

OBSTETRICS

Pregnancy and Its Complications	559
Labor and Its Complications	559
Puerperium and Its Complications	560
Miscellaneous	560

GENITO URINARY SURGERY

Kidney and Ureter	560
Bladder, Urethra, and Penis	561
Genital Organs	562
Miscellaneous	562

SURGERY OF THE EYE AND EAR

Eye	563
Ear	563

SURGERY OF THE NOSE, THROAT AND MOUTH

Nose	564
Throat	564
Mouth	564

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OF THE ORIGINAL CONTRIBUTIONS WHICH ARE ABSTRACTED IN THIS NUMBER

- Abderhalden, E 317
 Adler L 303
 Ahlstrom L 319
 Abbe F H 486
 Arcelin, 523
 Baer C 522
 Babcock W 52
 Barlth W 508
 Barrait J O W 527
 Beckman E H 336
 Bendizen F 472
 Bulings, E 49
 Bulsted C 513
 Bue J 9
 Blackford J M 460
 Blanchard 489
 Bloodgood, J C 531
 Hylthang J D 472
 Boorstein S W 473
 Bred W W 524
 Brem W 495
 Brewer G L 533
 Bricker W M 486
 Broca, A 519
 Bulkeley K 478
 Bute A J 511
 Byford H T 503
 Calvé 492
 Cantas, M 488
 Chatterton F 529
 Claiborn J H 528
 Clark G H 457
 Clark J G 509
 Cole L G 533
 Col A R 48
 Conklin C B 49
 Cope L 471
 Cruser H 57
 Crane A W 462
 Crile G W 533
 Cunningham M A T R 529
 Czernom A 30
 Dana, R 457
 Deaneuth W T 506
 Dede G 507
 Davies, D L 529
 Davis G G 489
 Denn J M 504
 Desvras 524
 Delpechier R 49
 Deloit 458
 Depage 457
 DiBernardo A L 495
 Dieffenbach W H 500
 Dietrich, M 47
 Donaldson H H 504
 Duff K 4
 Dreck C J 5
 Duff D 4
 Dufrow H V 539
 Ede, H 480
 Esberg C A 458
 Erdheim S 318
 Leuterman G B 466
 Eder 507
 Fether M 517
 Fitzwilliams C L 473
 Fodor A 517
 Fowler H A 51
 Frankel L 57
 Francis R 519
 Fraikel L 520
 Galie W L 474
 Gardner J A 57
 Giarro, V 57
 Gentler H 513
 Gilbert J 6
 Gillette A 480
 Gil L K 5
 Grudell W B 51
 Halber 475
 Hamann C A 533
 Hammond 477
 Haeckel H 529
 Harbath R, 513
 Harns, V B 529
 Harns, J R 492
 Hartmann H 538
 Hedden A 500
 Heynemann T 58
 Heuch, J 506
 Heschmann F 53
 Hofer G 530
 Hahn 494
 Huntington T W 537
 Ichna R 55
 Ichna R T 504
 Judd, L S 46
 Keene, F I 509
 Kelen, B 30
 Keller F 31
 Kohn G 476
 Kolscher G 54
 Kosmak G W 507
 Kreutzsch S 5
 Kohn G O 467
 Krumberg, R 520
 Lambert A V S 464
 Landon L H 458
 Lange S 467
 Lebevre 49
 Leporetti M J 463
 Lichtenhal H 536
 Linsen, S 48
 Lockport H A 517
 Lown W A 488
 Lower W E 53
 Luid G T 55
 Lutscher J A 53
 MacFarl D 498
 MacKenzie, K. A. J 336
 Magruder E F 481
 Magruder, 52
 Marie M P 459
 Marne D 460
 Marshall H W 490
 Martin, E 535
 Masanu R 497
 Mayer L 504
 Mayer J P 529
 May C H 516
 May W J 460 521 531
 McIlhen y P A 490
 McWilliams C A 496
 Mene, F 473
 Meyer R 51
 Meyer, W 465
 Michel, P 485
 Murotowski, S R 496
 Mchell, A P 496
 M'ed C 461
 Moorhead, J F 484
 Morton H H 57
 Morton R 498
 Murphy F T 533
 Murphy J B 495
 Munstow N A 509
 Mutel 474
 N 537 518
 Neu M 5
 Neumann, J 517
 Norton, W A 487
 Nové Jowand 485
 Oberst, A 477
 O'good, 486
 Osolet N J 459
 Pasteau O 524
 Prek M 441
 Penmoff W A 487
 Pishler G E 499
 Poch E R 476
 Pold G 49
 Potherat, 464
 Powers C A 533
 Pansoni, E 509
 Puech P 53
 Pusep L M 493
 Rehn, F 487
 Rend A 485
 Reynolds E 507
 Richter H M 47
 Ruhl G 490
 Ruma P P 505
 Robertson D E 474
 Robt son W 48
 Rochet V 57
 Roe J O 530
 Rong A J 54
 Rosenau, E C 479
 Rosenblatt, J 51
 Roth R E 49
 Rottler J 472
 Rown, F 495
 Ryerson E W 497
 Samuels J 519
 Sanford, A H 460
 Sauty 458
 Scherak B G 466
 Scherer, A 501 51
 Schucke C 506 509
 Schndler O 500
 Schmid, H H 520
 Schottmiller H 508
 Schwazmann, F 466
 Schweitzer B 56
 Seelig M G 466
 Seigle C 478
 Selheim H 513
 Sherman H M 483
 Shoop F J 498
 Smart W 505
 Simpson B T 527
 Solon, J A 523
 Spiegel N 454
 Steinharter E C, 469
 Stephenson, S 529
 Stoffel A 489
 Sug, K 523
 Summers J E 534
 Syring 480
 T Brock L L 497
 T rrell, E H 472
 Thénnot, L 527
 Therry H 54
 Thomas, T T 483
 Thomas, W S 459
 Tuholske L 466
 Unger F 465
 Van Dugn F S 484
 Van Lennep H B 479
 Vanvert 518
 Valdo F R 506
 Vaudica 49
 Von Hakerer 46
 Von Hassenman D 507
 Von Guer G A 474
 Ward, E N 53
 Weibel, 50
 Wlas, E A 503
 Werner P 54
 Wilson L B 460
 Winter 54
 Wood J W 520
 York, W 57
 Young 48
 Zander P 47
 Zweil P 56

INTERNATIONAL ABSTRACT OF SURGERY

MAY 1914

MONTHLY COLLECTIVE REVIEW

STASIS AND HUMAN EFFICIENCY

A BIBLIOGRAPHY AND SOME REMARKS

By JOHN BRYANT M D BOSTON

Dr Bryant's Collective Review Stasis and Human Efficiency is intentionally somewhat abbreviated since the literature upon the subject is so vast and of so varied a character that it is impossible to include it all in one review and at the same time give sufficient emphasis to each opinion to do it justice. Consequently it has been Dr Bryant's endeavor merely to outline in the most general manner the ground covered by the different theories and to supply bibliography of the best articles on the subject so that those sufficiently interested may turn to original sources for more detailed information.—[EDITORIAL NOTE.]

STASIS and efficiency are closely related in inverse ratio a fact which has been appreciated since very early times.

One of the oldest treatises on medicine in existence an Egyptian papyrus dating from the fourteenth century B C gives directions for the preparation of enemata and they were in common use among the ancient Egyptians. Herodotus 443 B C wrote "They clear themselves on three consecutive days in each month seeking after health by emetics and enemata for they think that all disease comes to man from his food." The Egyptians ascribed the discovery of enemata to the ibis. In this same Egypt says Pliny A D 77 the bird called the ibis has taught us something similar. He washes the inside of his body by introducing water with his beak into the channel by which our health demands that the residue of our food should leave. Hippocrates, 460 B C considered that enemata were preferable to purgatives except in very strong patients and recommended the use of cylindrical suppositories of honey smeared with oil or gall as a still milder form of treatment. In early times enemata were given from a bladder or skin fitted to a metal or bone tube. The enema syringe was invented in the fifteenth century

(Hertz.) Soranus of Ephesus mentioned the olive oil enema in 100 A D and Suetonius recorded the following edict of Claudius, *statum crepitumque ventris in comitibus emittere*.

In 1632 Spigelius had obtained a ratio of intestinal length to body length which holds good to-day *a corporis proportionem series longiora sunt eo homine cuius sunt intestina* and since his time the clinicians of the ages have been very busy. Hooke 1705 experimented with auscultation of the intestines and Hensling 1724 remarked upon the duodenal fossa. Morgagni 1761 considered the question of ptosis and the relation of an insufficient supply of food to constipation. In 1763 De Haen considered variation in the position of the internal organs in relation to disease. Haller wrote on the relation of constipation to auto-intoxication and said that the result might be fever, hemorrhage, consumption or insanity. Van Swieten discussed hydrotherapy and Santorini modestly called one of the peritoneal folds about the appendix *ligamentum nostrum*. Cullen 1789 understood the relation of constipation to piles, and Chalmers 1792 believed that there was a relation between diarrhoea, constipation, variations in the secretion of bile, and intestinal

atony Powell 1800 did not think that constipation depended upon the absence of bile Monro 1803 recognized duodenal distention and wrote on the neighboring fossæ Hamilton 1805 noted a relation between constipation and chlorosis Meckel 1809 wrote upon the length of the intestine and other related matters Chevalier 1819 first recognized dyschezia as a type of constipation advised the use of enemata and said of purgatives, "The whole intestinal canal is teased and pained for the defective action of that very part of it which is most remote from their influence" Powell 1820, described mucomembranous colitis and Annesley 1828 believed that the weight of the fæces in the cæcum produced distention Between this time and 1850, Duges and Billard O Berner Beaumont Blandin Schultz Phœbus Reid Bell Rokitsansky Rœver Hassing and Kesteven continued the work of investigation on these lines

In 1853 Virchow gave a wonderfully clear account of the whole matter of intestinal adhesions and shortly afterward appeared in 1857 the article of Treitz, which put the question of peritoneal fossæ on an equally clear footing. From these two papers may be said to date most of the modern work on these subjects and it may also be said that nothing has since superseded them in point of accuracy Virchow after giving due credit to his predecessors in this line of endeavor several of whom believed adhesions due to developmental influences or to the more mysterious intra uterine peritonitis proceeded to systematize things. He divided adhesions into three classes those of the upper abdomen the lower abdomen and of the omentum and noted six localities in which they were frequent Occasionally he saw a case as at Würzburg of a child only a week old in whom the transverse colon was adherent to the gall bladder and he could not doubt that it was of congenital origin but as a rule he was inclined to think that most of the adhesions he saw in adults were of low grade infectious origin due perhaps largely to long continued slight trauma of the intestinal wall from the impaction of fæces. He considered the clinical picture doubtful and thought it probable that many cases either had no attention paid them or were mistaken for gall bladder cases

The point of view to-day differs from that of Virchow only in that more weight is being given to the developmental errors Those who have had the largest experience with human embryology and the study of the fœtus, are coming to believe that variations, excessive

or deficient in peritoneal fusions have a far more important bearing on questions of invalidism in the infant the child and the adult than was formerly supposed Among excessive fusions may be mentioned the link of the terminal ileum links at the hepatic and splenic flexures, at the sigmoid flexure the band between the gall bladder and the transverse colon and the link at the duodenojejunal juncture These are the cases most open to discussion When the whole small intestine and colon is free on a single mesentery it is obvious that there has been a failure of normal fusion Some of the other cases are certainly due to excessive fusion and others are as obviously inflammatory perhaps of Virchow's type. In a third group belong those of a mechanical variety for which Lane is sponsor and a fourth is certainly composed of a mixed type Probably all types are represented and surely they are not all of one type it is however the belief of the author based upon moderate personal investigation¹ that eventually the majority of the cases will fall into the class of excessive peritoneal fusions or the mixed type. Rysanoff in a recent profusely illustrated and very interesting article goes so far as to say that all the adhesions found in the region of the cæcum gall bladder and splenic flexure are from the same developmental cause and he groups them under the name of the *ligamentum variforme*. He lays special stress upon a small and interesting structure called the *ligamentum felleocysticum pylorocolicum* which is present to a varying degree in a large proportion of cases. In lesser forms it may do no harm but when markedly developed may be the means, for example of kinking the cystic duct by binding the gall bladder firmly to the transverse colon. It has been noted by many other observers among them Hirschle Luschke Waldeyer Jonnesco, Ancel and Senert, Konjetzny Flint, and Robinson Robinson used it in measuring the length of the ascending colon and noted that in an extreme case it was possible for a stone to perforate the gall bladder work down between the two surfaces of the ligament and perforate into the intestine without ever entering the peritoneal cavity. The ligament itself is of course merely the free edge of the lesser omentum drawn out upon the fundus of the gall bladder and as such is subject to the vagaries common to other peritoneal folds

There are certain points of election for trouble in the abdomen which will be found are almost all in connection with the normal peritoneal

¹Observations on 200 autopsies, to appear later

folds, the fold themselves being influenced by the disposition of the blood vessel. Robinson gives a list of 27 peritoneal fold which act as ligaments or support. They occur particularly at the angulations of the intestine as for instance about the cecum and the duodenum and the three flexures, and in these areas occur the various forces of which Treitz is so to speak the father. Most of the folds and forces bear illustrious names as does almost every inch of the large intestine but the very recital of these great names distracts attention from the gut itself. When anything happens to the intestine about the terminal ileum or about the duodenal orifice or about the sigmoid flexure it is usually in the nature of a contraction which tends to decrease the caliber of the lumen. At the hepatic and splenic flexures on the other hand trouble usually comes in the form of bands which may produce increased angulation without necessary diminution of the lumen. The splenic flexure and the duodenojejunal juncture are of interest from a developmental point of view as being the two earliest points along the intestine to acquire a firm attachment in fetal life by the left costocolic ligament and the ligament of Treitz respectively; consequently the intestine performs its further developmental gyrations from these two fixed points of departure.

The gut itself is liable to very considerable variation in the length of the small or large intestine and in the thickness of its muscle layers, while the splenic flexure forms a natural division between the thin proximal and the thicker distal portions of the large intestine. Any segment of the gut may be completely lacking. Treves has pointed out that congenital stricture may occur at any natural angulation especially the sigmoid flexure and that obstruction from a complete or partial septum is likely to occur in the vicinity of developmental diverticuli such as that of Meckel or about the ampulla of Vater.

Frankel has demonstrated the passage of the colon bacillus from the hepatic flexure through the lymphatics to the kidney and bladder and Barger and Dale have obtained β immunazolethylamine from the intestinal mucous membrane.

Eppinger and Hesse have made good their claim for vagotomy and have shown the possibility of disturbance in any one of the three sets of nerves controlling the intestine while Paltauf, Stiller, Bartel and others have shown the seriousness of alterations in the ductless glands.

The extent to which faulty diet can influence the bowels is well enough known and Hertz has

emphasized the part played by faulty habits. To what extent one can regain control over one's cerchum is shown by the work of Vittor.

Drake and others have shown that the tubercular individual has a distinctly shorter length of intestine than the normal and from Werner and other comparative anatomists we learn that there are two body types. On one side are the carnivores with a narrow back, a long body form and a short intestine; on the other side are the herbivores with a wide back, a short body form and a long intestine. It seems that this holds good in man but since he is omnivorous one may find both types or mixed types in any clinic. Harris has accurately recorded a constant difference in body form present in what he calls the middle zone of the trunk between normal individual and those with visceral prolapse; this zone includes a region between the level of the lower end of the sternum and of the tip of the tenth rib. Dickinson and Tru low, Smith, Lohman, Goldthwait, Reynold and Lovett and many others have drawn attention to the constant error in posture of the chronic invalids under discussion.

Hereditary also plays its part. Albrecht, Tallon, Smith and others have shown that the congenital defects responsible for certain cases of appendicitis and other troubles have a tendency to occur in families. Consanguinity, alcoholism and syphilis are understood factors but the fact which Wood mentions that in otherwise model parents a single impregnation of the ovum or sperm cell by alcoholic indulgence at the time of conception may produce its effect upon the future child has not been so long understood.

It will be seen from the foregoing cursory glance through the extensive literature on this general subject of status and efficiency that many able workers have been engaged on different phases of the same problem. It is well that it should be so for it is one of the most serious questions confronting the medical profession to-day. Increasing medical skill has resulted in prolonging the lives of large numbers of persons who would otherwise have yielded to the old law of the survival of the fittest. Consequently unless something can be done the race is on the down grade. But fortunately the outlook is still bright; it lies in the direction of improvement of the children that they may be physically better parents—perhaps in the direction of surgical relief of adhesions before there has been time for the establishment of more serious conditions, such as a dilated duodenum or an incompetent ileocecal valve which may cause troubles difficult to overcome.

The following excerpts from the literature will supply the conclusions. The treatment of chronic bowel obstruction associated with auto-intoxication has lately been the subject of much discussion and it has seemed to me that anything which will help us to elucidate the real facts in these admittedly difficult cases and to discover the pathological causes which underlie the condition cannot fail to be of value at the present time. I cannot agree with Lane in considering that all these cases possess a common pathology. It seems to me that there are a great number of causes for this condition (Mummery).

The problem is comprehensive enough to accept all the assistance it can through gymnastics bandages regulation of diet and habits and still furnish an abundant per cent of human wreckage (Lane) for the surgeon to attempt to reclaim (Schachner).

The author was led to the study of the literature of stasis by his researches on the occurrence of ptosis which have led him to results which he hopes will prove of practical surgical value. Others may not have appreciated the great amount of attention given by previous medical writers to the subject. He also acknowledges his indebtedness to Prof C S Minot for his valuable advice in proof revision.

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ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

ANÆSTHETICS

Clark G IL Chloroform Anæsthesia in the Light of Physiological Research *Glasg & M J* 19 4 1333 33 By Surg Gynec & Obst

The author refers to his work with Cathcart in which it was found that when animals are really deeply under an anæsthetic the heart is very much less susceptible to the effects of CO₂ than when they are lightly under. He then briefly reviews the danger of acute chloroform poisoning with the habit of sudden death more extended consideration is then given to delayed chloroform poisoning. He particularly emphasizes the fact that experimental work has shown that chloroform is even more likely to cause delayed poisoning in pregnant dogs and cats than in non pregnant individuals. He believes the use of chloroform as an anæsthetic should be discouraged. WALTER M BOOTH

Danis, R Sacral Anæsthesia in Operations on the Perineum and True Pelvis (*L cathéa transacrée da s les opérations ur le périnée et le petit bassin*) *C & d P A J* d k 9 3 Oct By Journ l de Chirurgie

Danis emphasizes the fact that local anæsthesia is becoming increasingly important in surgery

every day and describes a new method of producing it which consists in injecting novocaine into the sacral foramina. A large area is thus rendered anæsthetic including the perineum the external genital organs with the exception of the testicles, and the true pelvis and its contents with the exception of the body of the uterus and the adnexa.

The patient is placed in the abdominal position and a long slender needle is inserted at a point a finger's breadth below the posterior inferior iliac spine and a finger's breadth from the median line. This enters the third sacral foramen and a few cubic centimeters of a one and one half per cent solution of novocaine-adrenalin are injected. This is repeated a finger's breadth lower in the fourth sacral foramen and also on the opposite side in the case of bilateral operations.

The author has used this method in operating for hæmorrhoids, in a curettage and in removing a cancerous rectum. He cites some operations performed by Lippens with it especially one in which he injected alcohol into the third and fourth sacral foramina in a case of stubborn coccygodynia. The results were good in all these operations.

J DUMOVY

SURGERY OF THE HEAD AND NECK

HEAD

Depage Uranoplasty by Transplantation of a Flap from the Upper Lip (*Uranoplastie par transplantation d lambeau de la lèvre supérieure*) *J Soc belge d k* 19 3 22 No 6 By Journal de Chirurgie

A young woman of 18 had a classical compound unilateral harelip. She had been operated on in infancy but cicatrization had been defective the labial notch was very pronounced and the nostril was thickened and very much enlarged a keloid had also formed in the scar and she had a pronounced wolf's jaw.

Depage's operation on the case was as follows. At the first operation the posterior part of the vault of the palate was successfully reconstructed three

months later the anterior part was constructed with less success. Two months later the patient returned and an operation on the harelip was done a triangular flap from the lip being used to close the defect in the palate the flap being left adherent to the mucous membrane at its upper angle. After the edges of the defect were freshened the flap was drawn through the nasal fossa to the orifice in the palate and sutured to the freshened edges the wound in the lip was then sutured with endodermal sutures. The reconstruction of the harelip was perfect there was no notch the scar due to the endodermal sutures was barely visible the nostril regained its normal shape and on opening the mouth the palate was seen to be complete at the anterior part the flap could plainly be seen marked off from the rest of the vault.

Deloré and Santy Bilateral Ankylosis of the Temporomaxillary Articulation Successfully Treated by Double Resection of the Neck of the Condyle (Un cas d'ankylose bilatérale de l'articulation temporo-maxillaire traité à ec succès par la résection double du col du condyle) *L. 2* *med* 19 3 No 42 By Journal de Chirurgie

This ankylosis appeared in a woman of 27 following a serious post abortion infection. Pain and other symptoms of inflammation had been absent for more than six months. The left jaw was ankylosed in a position of slight flexion. Deloré made an L-shaped incision divided the neck of the condyle with a chisel and mallet and resected a fragment a cm long, including not only the neck of the condyle but a portion of the lower border of the sigmoid notch and finished by interposing a flap of masseter. The same operation was performed on the right where an even firmer ankylosis was discovered. Three or 4 mm were resected and catgut interposed. The dental arches were forcibly separated with a wooden wedge which was replaced by two corks placed between the molars, holding them apart 4 cm. On the sixth day the corks were removed for some hours and some movement allowed on the fifteenth day the patient could masticate without pain. The perfect result was due in great part no doubt to the integrity of the muscles, which were not yet retracted. R. LEUCAT

Elsberg C. A. Some Immediate and Remote Results of Fractures of the Skull and Spine *Am J Surg* 1914 10 35 By Surg. Gynec. & Obst.

In injuries to the skull Elsberg considers injury to the brain to be of chief importance. He is not inclined to agree with the surgeons who operate in every case nor with those who claim that epilepsy more often follows in cases not operated upon.

He considers it to be mainly a question of diagnosis. Conservative treatment has been practiced with good results in cases of fracture of the skull without displacement of fragments.

About one third of Elsberg's cases have developed epilepsy after one or more years. In the majority of such cases very little is found at operation to account for the convulsive seizures and unfortunately only a few of the patient can be permanently relieved by interference now in what the surgeon does.

The indications for operation should be based upon the diagnosis of the condition and whether there is an ascending or stationary lesion. In cases of stupor, creasing, changes in the fundi and progression of the symptoms of weakness to paralysis and twitchings to convulsions indicate increasing intracranial pressure. Elsberg divides his cases of fracture of the skull into three classes.

1. In cases which show evidence of fracture of the vertex with few or no brain symptoms it is better to wait. During the course of a few days after accident symptoms of slow venous bleeding

or edema may develop an exploratory puncture of the brain may then be done with increasing symptoms subtemporal decompression may be done.

2. In cases where there is partial or complete loss of consciousness weakness on one side of the face paralysis of the upper limbs etc. the operation should be the removal of depressed fragments and extravasated blood.

In cases of fracture of the base of the skull a subtemporal decompression should be done as soon as signs of increased intracranial pressure appear.

For fractures of the spine where there is evidence of complete transverse lesion of the cord Elsberg advises a let alone policy but in incomplete transverse lesions where there is evidence of pressure on the cord by dislocated or fractured bones operation should be performed at once. L. MOORE COM.

Landon L. H. Hemostasis in Cranial Surgery *Surg. Gynec. & Obst.* 914 xviii 95 By Surg. Gynec. & Obst.

Due to the free blood supply of the scalp and the complicated venous return control of hemorrhage is very difficult. The author advises for superficial hemorrhage in operations for exposure of the gasserian ganglion subtemporal decompression, the MacArthur Frazier route to the pituitary and others that the semi sitting posture is a definitely controlling factor and a convenience in the posterior fossa operations. A specially constructed table which will allow elevation of the head without displacement of the field of operation. In case of rapidly falling blood pressure return of the patient to the horizontal position is indicated. The intra tracheal and intrapharyngeal insufflation methods of anesthesia also facilitate the surety and uniformity with which the patient is kept under ether.

The encircling tourniquet is the best method of controlling scalp hemorrhage where it is applicable. Landon calls attention particularly to his specially devised metal tourniquet consisting of a thin flexible spring steel encircling band, 14 mm wide with the thickness of the ordinary steel tape measure. It is broken for and aft posteriorly there is a sliding joint controlled by a spring. The friction between the band and the gauze covering the head prevents slipping of the tourniquet and hence strain on the spring during safe constriction its action being that of a safety valve. Anteriorly there is a self locking lever ratchet by which the band is tightened laterally there are two sliding adjustable auxiliary prongs for pressure over the temporal fossae.

In applying the tourniquet the head is covered with three or four layers of sterile gauze. The instrument being of metal may be sterilized is indestructible and may be readjusted tightened or loosened to any desired pressure or removed at any time during the operation.

In large cortical cerebral tumors with greatly exaggerated communication between the intracranial

veins and those of the scalp the use of a tourniquet may only serve to increase the hemorrhage. Here grasping the edges of the scalp wound with Allis's hemostats, or other scalp clamps is preferable. Ligation of one or even both carotid arteries may be considered using metal clamps which are later removed.

In suboccipital craniectomies the deep back stitch running suture circumventing the wound is a great advantage. This is carried down to the bone each stitch overlapping the preceding and runs from one mastoid process to the other. Bleeding from the diploe is largely controlled by using the Cryer spiral osteotome for cutting the flap—control is due to the friction and the bone dust.

To control hemorrhage from the bone Horsley's wax is used. Points of bleeding in the dura are frequently stopped by the application of cotton wrung out of boiling saline solution or by the application of bits of muscle tissue. Lastly the pial vessels are ligated by using silk in fine curved needles if at the close of the operation hemorrhage is persistent drainage is always employed either rubber tissue or gauze soaked in sterile liquid petrolatum to prevent adhesion. All drains should be taken out in eighteen hours after operation. Patients are placed in the sitting posture as soon as they are out of the anæsthetic.

FRANK RECKORD

Marie M P: Trephining the Healthy Hemisphere for Decompression in Some Cases of Cerebral Hemorrhage (De la trépanation décompressive de l'hémisphère sain dans certains cas d'hémorragie cérébrale) *Bull d'hist. nat. méd.* 9 3 ix 45

By Journal de Chirurgie

In cerebral hemorrhage the sudden interruption of blood produces the apoplectic attack which is a transitory phenomenon the compression on the brain produces coma, which is a persistent one. If coma is profound and persistent in ordinary cerebral hemorrhage it shows that the normal hemisphere is compressed also. This necessitates trephining for decompression. It would be dangerous however to perform this trephining on the side where the hemorrhage is taking place as there would be danger of increasing the hemorrhage and of its tearing the convolutions of the cortex which would no longer be supported by the bones of the cranium and blood would escape into the arachnoid and meningeal spaces therefore the trephine should be done on the normal side.

Trephining is not indicated in all cases of cerebral hemorrhage. The patients in whom it is done should not be too old, decided albuminuria is a contra-indication. It is preferable to operate before the temperature rises. If the coma is complete within a few hours it is to be feared that the quantity of blood is so large that it has extended so far toward the base of the brain that a decompression operation would be inadequate. A decompression trephine not involving the dura mater is neither difficult

nor dangerous. It has been done four times without any accidents but it should be done in time.

M. CHIFFOLIAU

Thomas W S: Experimental Hydrocephalus *J Exp Med* 9 4, ix 106

By Surg. Gynec. & Obst.

Thomas produced internal hydrocephalus by injecting auronat an insoluble granular substance into the ventricles. He found that this produced first an acute and later a chronic inflammation. With chronic inflammation obstruction occurs followed by a slow dilatation which reaches its maximum in about two months. Obstruction causing internal hydrocephalus may occur at the foramen of Monro in the aqueduct of Sylvius or probably with greater frequency at the foramen of Magendie. JAMES F. CARVER.

NECK

Ossokin N E: Innervation of the Thyroid (Zur Innervation der Schilddrüse) *Nachricht. d. Anat. Ges.* 9 3 ix 673

By Zentralbl. f. d. ges. Chirurgie u. Grenzgeb.

This is an experimental investigation of the vasomotor and secretory innervation of the thyroid. In regard to the vasomotor innervation the author comes to the conclusion that the stimulation of the superior laryngeal as well as the inferior laryngeal causes changes in the circulation of the blood in the thyroid. Both nerves have vasodilator and vasoconstrictor fibers but their distribution is different in different cases generally they are antagonistic from the fact that fibers of one sort predominate in one and of the other sort in the other.

In the investigation of the secretory fibers of the laryngeal the author agrees with Ascher and Flach that the existence of such fibers is proven from the fact that its stimulation has the same effect as thyroid secretion in increasing the irritability of the depressor nerve and the effect of adrenalin. He accepts the dependence of the secretory activity of the thyroid on the laryngeal nerve and concludes from that that a simultaneous stimulation of the vagus and laryngeal must exercise more of an inhibitory effect on the heart than the stimulation of the vagus alone. This was confirmed by the experiments.

The author concludes that (1) The vasomotor fibers for the thyroid lie chiefly in the laryngeal but also to some extent in the superior and inferior pharyngeal (2) the existence of vasoconstrictors in the thyroid is shown by the effect of adrenalin (3) on stimulation of the laryngeal nerve there is an increase in the irritability of the vagus and a decrease in that of the accelerator nerves. Since the same thing takes place in the introduction of thyroid extract into the circulation it shows that the laryngeal has the action of a secretory nerve.

BRISQWICK

Wilson L. B. Relation of the Pathology and Clinical Symptoms of Simple and Exophthalmic Goiter. *J Am Med Ass* 1914 1: 15.
By Surg. Gynec & Obst.

Wilson reviews the pathology both gross and microscopic in fixed tissues of all the thyroid glands in the laboratories of the Mayo Clinic removed from patients on the exophthalmic goiter list to January 1, 1912—a total of 1,208 exophthalmic thyroids—and of all the thyroids removed from patients on the clinical simple goiter list to June 1, 1913—a total of 2,336 simple goiters—or in all specimens from 3,544 patients. The results of his observations are as follows:

1. Practically all cases of clinically true exophthalmic goiter show marked primary hypertrophy and hyperplasia of the parenchyma of the thyroid gland. Furthermore the clinical stage of development of the disease is paralleled by the stage of development of the pathological condition in sufficiently marked degree that the clinical condition may be estimated from the pathological examination with about 80 per cent of accuracy. The degree of severity of the clinical condition is similarly paralleled by the pathological condition of the gland. The relationship between hypertrophy and hyperplasia of the thyroid gland and the clinical symptoms of true exophthalmic goiter is remarkably constant.

2. While mild degrees of hypertrophy and hyperplasia within physiological limits may be present in the thyroid gland particularly in the young and during pregnancy, yet the absence of this condition in the thyroid of adults coming to operation for toxic non-exophthalmic and non-toxic goiters is most striking.

3. Eleven per cent of all the thyroids on the simple goiter list showed as their principal pathological change a secondary regeneration of atrophic parenchyma.

4. All the thyroids which showed secondary regeneration were from patients whose clinical symptoms were markedly toxic non-exophthalmic. Forty per cent of the thyroids from patients on the simple goiter list were removed principally encapsulated adenomas. More than half of these were distinctly of the so-called fetal adenomatous type.

5. Less than 0.5 per cent of the thyroid from patients on the exophthalmic goiter list but more than 14 per cent of all thyroids from patients on the simple goiter list consist principally of groups of dilated acini filled with thick densely staining colloid material lined with atrophic parenchyma.

Sisford A. H. and Blackford, J. W. A Comparative Study of the Effects on Blood-Pressure of the Extracts and Serums of Exophthalmic Goiter and of Other Substances. *J Am Med Ass* 1914 1: 7.
By Surg. Gynec & Obst.

The authors used fresh extracts of hyperplastic thyroids made so that 1 cc. represented 1 gm. of

fresh gland. These extracts were injected intravenously into dogs and the effect on the blood pressure noted. Various other substances were used as controls. With a peptone—10 per cent solution—extracts of normal thyroid, sarcoma hypertrophied prostate brain and the serum of goiter patients. A marked fall in blood pressure is produced by hyperplastic thyroid extract followed by tolerance to subsequent injections. Similar results are obtained with sera from patients suffering with acute exophthalmic goiters. A crossed tolerance exists between extracts of exophthalmic goiter and sera control substances causing drops in blood pressure do not produce tolerance to goiter substances. The conclusions are that there is a powerful depressor substance in saline extracts of exophthalmic goiters and apparently the same substance is present in the blood of individuals suffering acutely from the disease.

Marine D. Further Observations and Experimentation on Goiter So-Called Thyroid Carcinoma in Brook Trout. Its Prevention and Cure. *J Exp Med* 1914 1: 70.
By Surg. Gynec & Obst.

After investigating goiter in trout in a private hatchery Marine finds that feeding the artificial and incomplete diet of liver is the principal etiological factor in bringing about this fault of nutrition which is at once corrected by feeding whole sea fish. Water plays no essential part in the etiology, transmission or distribution of the disease in the hatchery investigated. He concludes that goiter in fish is a non-infectious, non-contagious manifestation of a fault of nutrition, the exact biochemical nature of which has not been determined.

J. M. F. CLEVELAND.

Marine D. Observations on Tetany in Dogs. *J Exp Med* 1914 1: 89.
By Surg. Gynec & Obst.

Marine finds that accessory parathyroid tissue is present in 5 to 6 per cent of dogs. The easiest method of determining this in a dog is by giving calcium salts daily for two or three weeks after doing an apparently complete parathyroidectomy. In the absence of all parathyroid tissue the animal will die of tetany, while if there remains some active parathyroid tissue the calcium salts will save the animal's life.

While factors other than the amount of parathyroid removed influence the onset of tetany among which are pregnancy, lactation, rachitis, the amino-acid diet of sulphur and diet. The removal of the parathyroid lowers sugar tolerance but rarely to the degree of constant glycosuria. The feeding of fresh or dried parathyroid tissue was found to have no effect on the parathyroid tetanus of dogs. On the other hand calcium salts were found to have a striking palliative effect and a preventive action in tidying over otherwise fatal cases. They are not however curative in any sense and the mode of their action is not known.

J. M. F. CLEVELAND.

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Judd E. S. Chronic Cystic Mastitis *J. M. Ch. St. M. Soc.* 1914, xii, By S. T. Gynec. & Obs.

The pathological pictures of chronic cystic mastitis vary so greatly as to lead to the belief that many of these pictures are different stages of one and the same process. Various observers believe that chronic cystic mastitis is a precancerous stage and that the type undergoes malignant degeneration.

Chronic cystic mastitis is in itself a benign condition and except for its evident relationship to cancer and to relieve pain would not require treatment. The unsatisfactory results obtained in operating for well defined cancer would indicate that progress in the surgical treatment of this disease will be made by operating in the precancerous stage.

In a series of 218 cases of chronic cystic mastitis operated on in the Mayo Clinic up to January 1, 1913, there were 207 females and 11 males. In all of the males the condition occurred between the ages of 20 and 30. In the females 19 occurred between 20 and 30 years, 63 between 30 and 40 years, 96 between 40 and 50 years, 27 between 50 and 60 years, and one between 60 and 70 years. The age of one was not mentioned. It will be seen that a large percentage of these cases occurred in patients between the ages of 40 and 50, i. e. the period spoken of as the cancer age.

In conclusion the author states: (1) I believe chronic cystic mastitis has a definite relationship to cancer of the breast and in many instances may be considered a precancerous condition. (2) In cases suspicious as to malignancy a radical operation for cancer should be performed. (3) In cases of chronic cystic mastitis that can neither clinically nor pathologically be diagnosed as to malignancy the conservative amputation with removal of the gland bearing fascia is the operation of choice.

Von Haberer. Removal of the Thymus, and Its Results (Thymusdrüsenentfernung und ihre Resultate). *Monatsschr. Med. u. Nat.* 93, 1, 833. By Z. Traub, f. d. ges. Ch. Grenzgeb.

In 295 cases of operation for goiter the thymus was removed nine times. In five cases all women because the goiter alone did not explain the great difficulty in breathing and therefore a status thymicus was suspected. There was dullness over the manubrium of the sternum. 2 cases a shadow on the roentgen picture in cases dilatation of the heart and very rapid small pulse and in 3 cases considerable delay in the coagulation time of the blood. The post-operative course was uneventful and the result thus far satisfactory as the symptoms have disappeared and also the changes in the heart.

Four other cases of thymectomy were performed

for very pronounced cases of Basedow's disease and in 3 of the cases a part of the goiter was removed at the same time. The post-operative course in these cases was as simple as after ordinary strumectomy without even any temporary signs of heart dehrium. The frequency of the pulse decreased almost immediately and all the rest of the symptoms as well. The most noteworthy case however is that of a man reported at the surgical congress this year. He had had two unsuccessful operations on the thyroid and was in an almost dying condition from insufficiency of the heart. A very small thymus was removed with almost immediate results. Now after ten months he can climb mountains 2500 meters high. Microscopical examination in all 9 cases showed a persistent hyperplastic thymus.

TOLKE

M. Neil C. The Association of Acutely Fatal Illness in Infants and Children with Abnormal Constitution: Status Lymphaticus. *Ed. M. J.* 1914, xii, 25. By Surg. Gynec. & Obst.

This author discusses from several points of view those mysterious cases of sudden death termed usually status lymphaticus. The clinical features are instantaneous or almost instantaneous death of an individual in robust health in whom after death careful search fails to reveal evidences of disease. These cases fall into several groups: (1) Infants found dead in bed overnight. (2) Older children succumbing during or shortly after anesthesia. (3) Young adults dying suddenly during bathing. This paper concerns itself with the first group and with a series of cases allied to them.

The explanations of these deaths are made essentially under two headings: (1) The mechanical theory of pressure by an enlarged thymus on adjacent vital structures. (2) The non-mechanical theory of an altered constitution of the body. The first is the older theory and though relegated to the background by Friedleben has had more recent advocates. The second theory is due to Paltauf who believed that the enlargement of the thymus and lymphatic tissue throughout the body changes in the heart and arowing of the aorta to be the predisposing factors, actual death being due to sudden heart failure.

Of the clinical characteristics, the age incidence is of importance. In 51 cases collected by Saakolow 70 per cent were below one year. Sex makes no difference except in older children and young adults where males predominate. The general appearance of the patients is often of excellent development. Sometimes a pasty skin, thick panniculus, enlargement of superficial lymph nodes, and rickety changes are seen.

Among the pathological features an enlarged thymus is important although the actual size in any particular case has ceased to be of importance.

with the decline of the pressure theory. Microscopically hyperplasia is present in both cortex or medulla or in one alone. Hassall's corpuscles are usually enlarged and show some kind of degeneration. The weight of the thymus in health is of prime importance. According to Dudgeon it weighs 7 to 10 gms up to 2 years then stationary and diminishing after puberty. Hammar gives figures as high as 37.5 gms. The lymphoid tissue shows overgrowth in areas where it is usually invisible to the eye as in oesophagus, stomach, duodenum, jejunum, the greater part of the colon and especially at the base of the tongue. Prominence of Peyer's patches, solitary follicles in the ileum and follicles of the spleen are notable marks of the condition. Microscopically the lymphoid tissue shows simple hyperplasia. In older children the fibrous stroma is thickened. The medulla of the adrenals according to Wiesel shows almost complete absence of chromaffin staining with bichromate salts. This suprarenal hypoplasia is now a part of the pathology of *status lymphaticus* and Wiesel believes the sudden death to be an adrenal death. In the thyroid a chronic hyperplasia seems to be established. In the genital organs various degeneration changes have been noted. Other changes found are narrowing of the aorta or its branches, hypoplasia of the heart, horseshoe kidney, double ureters, over average length of skeleton, free mesocolon, etc. Bartel who insists upon the significance of these widespread changes, has taught the doctrine that *status lymphaticus* is only a part of a pathological condition which he calls *status hypoplasticus*.

The new cases portrayed in this paper deal with two groups: (1) 13 infants found dead in bed (2) a group of older boys aged 10 to 16 years dying after very short illness whose pathology resembled that of the first group.

Those of the first group were from 25 days to 4 months old and all were well nourished. Eleven were found dead in bed, one died suddenly after a fit of coughing and the other died two hours after cyanosis appeared and dyspnoea began.

At post mortem examination 4 thymuses were weighed, 3 weighed 20 gms and one 51 gms. Others were noted as enlarged. In only a minority was enlargement of the lymph tissues noted. These cases are not strictly cases of *status lymphaticus* but *status thymicus* could be applied to them. The lungs nearly always showed congestion often subpleural hemorrhages. In 8 cases examined microscopically all showed intense congestion of the capillaries, catarrh of the epithelium, exudation of fluid and cells into the alveoli, etc. In fact signs of bronchopneumonia. In 27 cases of sudden death in children, Paltauf found capillary bronchitis, but ruled out all these from the category of lymphatic constitution. It is reasonable to assume in these cases called fulminant bronchopneumonia that an abnormal constitution of which *status lymphaticus* is a part is a contributory factor in the sudden death. In certain industrial schools in Great Britain cases

of illness occurred divisible in 3 groups of pneumonias: (1) rapidly fatal cases, (2) irregular non fatal lobular in type, (3) latent or abortive pneumonias. In the fatal cases it was established that pneumonia was present that it was pneumococcal, and that the classical marks of *status lymphaticus* were present. This led to the conclusion that these fulminant pneumonias owed their fatal character to this morbid constitution and that the irregular features of the non fatal cases were due to the same diathesis.

The clinical features of the two groups are similar. In the infants found dead in bed the illness began during sleep. Among the older children out of 22 fatal cases 3 deaths occurred in sleep of the other 20 11 died in 24 hours and 9 within 48 hours. Moreover the early character of the illness was often trivial and assumed grave features only an hour or two before death. Also the majority of the boys dying with fulminant pneumonias became ill during the night or early morning. In both groups the pathological features of congestion of the lungs and bronchopneumonia and presence of *status lymphaticus* parallel each other.

Examination of the thyroid in the cases of fulminant bronchopneumonia showed a marked hyperplasia in all specimens examined. In 12 of the 13 cases of infants the thyroid showed evidences of unquestioned marked hyperplasia. The thickening of the fibrous stroma is very considerable and this point seems to establish the fact that the abnormal condition of the gland had existed for some time before death, and this lends support to the theory of some morbid constitution.

Other infections as scarlet fever and diphtheria have been described as fulminant, patients dying within a short time. Dant examined 11 such cases of diphtheria all showing pronounced *status lymphaticus*. In one case of scarlet fever the thymus was found enlarged and the thyroid, examined by McNeil, showed marked hyperplasia and especially the thickening of the fibrous stroma. These facts seem to harmonize with the evidence found in the cases of fulminant pneumonias in institutions.

W H BURNER

TRACHEA AND LUNGS

Grane A W X Ray Examination of the Lungs
J Mich St M Soc 19 4 mar, 20
By Surg Gynee & Obst

According to the authors' conclusion the fluoroscope is superior to a single plate but a stereoscopic pair gives diagnostic vision superior to any other method. Familiarity with the fluoroscopic appearance of the lungs in health is necessary. The room must be absolutely dark and if it is daytime the physician should first rest his eyes in darkness even fifteen minutes may be insufficient for the best results.

The ultimate factors of a fluoroscopic examination are increased or decreased transparency and

motion. The end result of roentgenography agrees with the end result of the physical examination if the phenomena are correctly interpreted. The same factors which determine X-ray shadows determine the character of the percussion note. The field of auscultation is larger in some directions than that of the X-ray. Affections of the bronchial tubes denoted by râles and inflammations of the pleura denoted by friction sounds are beyond the province of X-rays but the margin of possible error is wider for the stethoscope and when the signs are correctly elicited and interpreted the results of auscultation must agree with those of roentgenography. Roentgenography is in itself inspection therefore it is a part of the physical examination and not a method to supplant it.

The author's methods of interpretation are summarized in the following tables

LUNG AND PLEURAL SAC

Increased transparency

- 1 General (1) Pneumothorax (2) Emphysema (3) Compensatory emphysema
- 2 Local (1) Empty cavity (2) Pneumothorax (3) Bronchiectasis

Decreased transparency

- 1 General (a) Light shadow (1) Generalized pleurisy (2) Congestion of lung (b) Dark shadow (1) Edema (2) Cirrhosis (c) Black shadow (1) Effusion to apex (2) Total consolidation
- 2 Local (a) Light shadow (1) Infiltration (2) Thickened pleura (3) Atelectasis (b) Dark shadow (1) Partial consolidation (2) Small filled cavities (3) Pleuritic exudates (4) Small tumors (5) Infarcts (c) Black shadow (1) Consolidation (2) Pleuritic effusion (3) Gangrene (4) Large filled abscesses (5) Large tumors (6) Large hydatid cysts

Motion

- 1 General Changes in density during respiration
- 2 Local Changes in form (1) Of half filled cavities (2) Line of thickened pleura (3) Effusions

Diaphragm

- 1 Visibility (a) Increased (a) Inspiration (b) Emphysema (c) Pneumothorax
- 2 Decreased (a) Expiration (b) Edema (c) Congestion of lower lobe (d) Consolidation of lower lobe (e) Thickened pleura at base (f) Pleuritic effusion or exudate (g) Empyema

Position

- 1 Low (a) Emphysema (b) Asthma (c) Cirrhosis (d) Tuberculosis (e) Abscess (f) Atelectasis
- 2 Difference of the two sides.

Form

- 1 Arched (a) When high (see above) (b) Abscess (c) Atelectasis
- 2 Flat (a) When low (see above)

- 3 Irregular (a) Diaphragmatic hernia (b) Hepatic abscess beneath diaphragm
- 4 Difference between the two sides

Motion

- 1 Ordinary respiration General range (a) Restricted (a) Tuberculosis (b) Pleurisy (c) Exaggerated (a) Compensatory emphysema
- 2 Forced Respiration (a) General range same as ordinary respiration (b) Upper half (1) Restricted (a) Emphysema (b) Asthma (c) Pleurisy (2) Exaggerated (a) Compensatory emphysema (c) Lower half (1) Restricted (a) Tuberculosis (b) Pleurisy (2) Exaggerated (a) Compensatory emphysema.

DAVID R. BOWEN

HEART AND VASCULAR SYSTEM

Leporski M. J.: Influence on the Heart of a Action of Mechanical Injury of the Surface of the Heart (Über die Beeinflussung der Herztätigkeit durch mechanische Verletzungen der Oberfläche des Herzens). *Russk. Med. St. Petersburg* 1913. 2. 14. 8. By Z. Traub. f. d. ges. Ch. i. Grenzgeb.

The author had a case in which the patient had fallen and stuck a needle in the breast at the edge of the sternum between the third and fourth ribs. The needle showed pendulum movements synchronous with the pulse. While the needle remained there was no heart disturbance but as soon as it was removed the patient lost consciousness, the pulse disappeared, the respirations stopped, there was marked cyanosis and convulsive attacks which continued twenty minutes and then the heart resumed its normal action. These attacks were repeated several times but the patient finally recovered.

The author instituted a series of experiments to determine the influence of superficial injuries of the heart on its action. He found in the literature many cases reported of severe injury to the heart without any disturbance in its action and other cases in which the heart stopped on only slight injury. His experiments were performed on four dogs and one at which were anesthetized with morphine and ether cannulas inserted into the jugular and carotid and connected with a Ludwig kymograph. Artificial respiration was performed and the heart laid bare. In two cases the pericardium was not opened in the other cases it was and the heart surface was lightly scratched with a needle. In three cases there was immediately a marked fall in blood pressure and cessation of the heart's action. In two cases the injury had to be repeated several times before the heart's action stopped. The injury was in all cases superficial as possible and in only one case was it unsuccessful there being a slight defect of the heart muscle.

There was no bleeding of sufficient extent to demand consideration in the results so the author does not think the effect can be regarded as the result

with the decline of the pressure theory. Microscopically hyperplasia is present in both cortex or medulla or in one alone. Hassall's corpuscles are usually enlarged and show some kind of degeneration. The weight of the thymus in health is of prime importance. According to Dudgeon it weighs 7 to 10 gms up to 2 years, then stationary and diminishing after puberty. Hammar gives figures as high as 37.5 gms. The lymphoid tissue shows overgrowth in areas where it is usually inviable to the eye as in oesophagus stomach duodenum jejunum the greater part of the colon and especially at the base of the tongue. Prominence of Peyer's patches solitary follicles in the ileum and follicles of the spleen are notable marks of the condition. Microscopically the lymphoid tissue shows simple hyperplasia. In older children the fibrous stroma is thickened. The medulla of the adrenals, according to Wiesel shows almost complete absence of chromaffin staining with bichromate salts. This suprarenal hyperplasia is now a part of the pathology of *status lymphaticus* and Wiesel believes the sudden death to be an adrenal death. In the thyroid a chronic hyperplasia seems to be established. In the genital organs various degeneration changes have been noted. Other changes found are narrowing of the aorta or its branches hyperplasia of the heart horseshoe kidney double ureters overaverage length of skeleton free mesocolon etc. Starck who is in upon the significance of these widespread changes has taught the doctrine that *status lymphaticus* is only a part of a pathological condition which he calls *status hypoplasticus*.

The new cases portrayed in this paper deal with two groups. (1) 13 infants found dead in bed (2) a group of older boys aged 10 to 16 years dying after very short illness, whose pathology resembled that of the first group.

Those of the first group were from 25 days to 4 months old and all were well nourished. Eleven were found dead in bed one died suddenly after a fit of coughing and the other died two hours after cyanosis appeared and dyspnoea began.

At post mortem examination 4 thymuses were weighed 3 weighed 20 gms and one 31 gms. Others were noted as enlarged. In only a minority was enlargement of the lymph tissues noted. These cases are not strictly cases of *status lymphaticus* but *status thymicus* could be applied to them. The lungs nearly always showed congestion often subpleural hemorrhages. In 8 cases examined microscopically all showed intense congestion of the capillaries catarrh of the epithelium exudation of fluid and cells into the alveoli etc. in fact signs of bronchopneumonia. In 127 cases of sudden death in children Latham found capillary bronchitis but ruled out all these from the category of lymphatic constitution. It is reasonable to assume in these cases called fulminant bronchopneumonia that an abnormal constitution of which *status lymphaticus* is a part is a contributory factor in the sudden death. In certain industrial schools in Great Britain cases

of illness occurred divisible in 3 groups of pneumonia (1) rapidly fatal cases (2) irregular non fatal lobular in type (3) latent or abortive pneumonia. In the fatal cases it was established that pneumonia was present that it was pneumococcal, and that the clinical marks of *status lymphaticus* were present. This led to the conclusion that these fulminant pneumonias owed their fatal character to this morbid constitution and that the irregular features of the non fatal cases were due to the same diathesis.

The clinical features of the two groups are similar. In the infants found dead in bed the illness began during sleep. Among the older children out of 23 fatal cases 2 deaths occurred in sleep of the other 20 11 died in 24 hours and 9 within 48 hours. More or the early character of the illness was often trivial and assumed grave features only an hour or two before death. Also the majority of the boys dying with fulminant pneumonias became ill during the night or early morning. In both groups the pathological features of congestion of the lungs and bronchopneumonia and presence of *status lymphaticus* parallel each other.

Examination of the thyroid in the cases of fulminant bronchopneumonia showed a marked hyperplasia in all specimens examined. In 12 of the 13 cases of infant the thyroid showed evidences of unquestioned marked hyperplasia. The thickening of the fibrous stroma is very considerable, and this point seems to establish the fact that the abnormal condition of the gland had existed for some time before death, and this lends support to the theory of some morbid constitution.

Other infections as scarlet fever and diphtheria, have been described as fulminant patients dying within a short time. Dant examined 11 such cases of diphtheria all showing pronounced *status lymphaticus*. In one case scarlet fever the thymus was found enlarged and the thyroid examined by Starck showed marked hyperplasia and especially the thickening of the fibrous stroma. These facts seem to harmonize with the evidence found in the cases of fulminant pneumonias in institutions.

W. H. BRUCE

TRACHEA AND LUNGS

CASE, A. W. X-Ray Examination of the Lungs.
J. Med. 31 Nov. 94, 11, 20.
By Surg. Gynec. & Obst.

According to the author's conclusion the fluoroscope is superior to a single plate, but a stereoscopic picture gives diagnostic vision superior to any other method. Familiarity with the fluoroscopic appearance of the lungs in health is necessary. The room must be absolutely dark and if it is daytime the physician should first rest his eyes in darkness for fifteen minutes may be insufficient for the best results.

The ultimate results of a fluoroscopic examination are increased or decreased transparency and

4. A preliminary gastrotomy through which the patient may gain nourishment and so improve the nutrition and power of resistance is an advantage.

Meyer W: Extrathoracic and Intrathoracic Oesophagoplasty in Connection with Resection of the Thoracic Portion of the Oesophagus for Carcinoma. *J Am Med Ass* 9 4 1900

By Surg. Gynec. & Obst.

Meyer reviews briefly the plastic measures designed to replace a resected section of the lower oesophagus. He regards the gastroplastic method of Jannu as the most promising method and prefers the extrathoracic subcutaneous transplantation of both the new formed tube and the oral end of the resected oesophagus.

Bircher was a pioneer in the construction of a new oesophageal tube extending from the neck to the stomach, infolding for this purpose the skin over the anterior aspect of the thorax. Roux and Wullstein followed, forming an intrathoracic tube from a coil of upper jejunum detached from all normal connection save the mesenteric blood supply. Vulliet and Kelling similarly adapted for a new oesophagus an excluded segment of transverse colon.

To obviate the multiple operations and dangers of strangulation to the transposed intestinal coil a number of operations have been recently devised utilizing the stomach for plastic material. Von Fink turns upward the first portion of the duodenum and mobilized pylorus an operation particularly indicated where the cardiac end of the stomach be involved by neoplasm. Ach and others have proposed to mobilize the stomach and distal end of the oesophagus particularly indicated when resection has been necessitated near the middle of the oesophagus and to either transpose extra thoracically or to make an internal anastomosis with the free end of the upper oesophagus.

Prior to Jannu Depage and Hirsch had molded into oesophagus stomach wall from the lesser curvature and anterior aspect respectively. Meyer regards the procedure of Jannu as offering a longer more surely viable tube with minimal operative trauma.

Jannu divides the gastrocolonic portion of the great omentum at a distance two inches from and parallel to the major curvature of the stomach. The right inferior gastro-epiploic artery is divided but the left is carefully preserved. Next a tube is formed of the lower portion of the stomach by quilting the anterior to the posterior wall by a double row of mattress sutures beginning at the lower border two inches from the pylorus and following a line of plotted incision one and one half inches distant from and parallel to the greater curvature. The mattress sutures continue well into the fundus of the stomach one to two inches past the reflection of the left inferior epiploic artery. Incision is made between the row of sutures freeing a tube 8 to 25 cm long attached by its

base to the fundus of the stomach and efficiently nourished by the left inferior epiploic artery. The raw edges of the stomach and the tube are turned in by suture and the apex of the tube is drawn through a subcutaneous tunnel as high onto the anterior thoracic wall as it will reach here to be ultimately anastomosed with the mobilized end of the oesophagus. Narrowing the stomach by a third does not interfere materially with function.

Meyer regards the Jannu procedure less effective as a pure gastrotomy than the present standard methods since regurgitation occurs along the widely patent tube probably from a continuance of normal peristalsis now occurring in an undesirable direction.

Those patients presenting infiltrating carcinoma behind the aortic arch with history of complete obstruction Meyer regard as not susceptible of any save palliative surgery.

While intrathoracic oesophagoplasty when further developed experimentally would seem the ideal operation yet it is found that a transposed oral stump of the oesophagus no matter how long remains viable in the new position then need for development of intrathoracic oesophagoplasty becomes less urgent and the external will remain the operation of choice following resection of any segment of the oesophagus for carcinoma.

KARL CONNELL

Unger E: Surgery of the Thoracic Part of the Oesophagus (*Zur Chirurgie des Oesophagus in Thorax*). *Berl M Wch sch* 913 1 2090
B Zentralbl f d ges Ch r u i Grenzgeb

In most cases of intrathoracic operations on the oesophagus the left pleura is opened in transpleural procedures the right pleura also is often opened but with the aid of a differential pressure apparatus this complication may easily be avoided. Of the positive pressure apparatus only those can be considered that leave the mouth of the patient free for further manipulations. Negative as well as positive pressure apparatus have the disadvantage of disturbing the movements of the lungs and moving the oesophagus with them. This disadvantage is avoided by Meltzer's insufflation. Section of the vagi cannot be avoided but to avoid shock they should be touched with 5 per cent cocaine. Extensive resection especially of the ribs in contact with the diaphragm may cause marked disturbances of respiration. Unger resects the seventh or eighth rib and spreads the intercostal space or the next rib may be simply incised.

If the tumor is located at the diaphragm an attempt should be made to unite the oesophagus and stomach directly. If the wall of the oesophagus is materially changed by dilatation or inflammatory processes the oesophagus should be removed or drawn transversely through the pleural cavity and sutured to the skin.

In tumors between the bifurcation and the diaphragm the tumor is removed the lower end allowed to sink down toward the stomach and the

of shock. There was fluttering in the ventricle immediately after the injury followed by cessation of heart action while the auricles continued to act normally for some time. Since it seems impossible from the nature of the irritation that the effect could be due to injury of the heart muscle the author's conclusion that it must have been due to damage of the nervous elements is in agreement with the conclusions of other authors. Also in agreement with others he concludes that certain areas of the heart's surface are especially sensitive to injury: (1) the anterior surface of the left ventricle in the region of the longitudinal sulcus and (2) the region below the auriculo-ventricular sulcus on the posterior surface of the left ventricle.

VOY HOLT

Potherat Treatment of Wounds of the Heart
(Sur le traitement des plaies du cœur) *Bull et mém Soc de chir d'Ps* 9 3 xxix 1966
By *Journal de Chirurgie*

Potherat described a case of penetration of the anterior surface of the left ventricle by a revolver bullet. There was no effusion of blood and the bullet could not be found. The wound was sutured with catgut and the pericardium drained. The patient died the thirteenth day of purulent pericarditis. The author raised the question whether the pericarditis was to be attributed to the drainage or to infection produced by the projectile itself or by bits of clothing carried in with it.

LEONMANT believes that wounds of the heart are more serious than statistics would lead us to believe because there are no physical or functional signs that enable them to be diagnosed at once. The subjective signs have no value for they may be slight in very serious wounds and vice versa. The objective signs have more value than that of haemopericardium for instance which shows that the heart is being compressed by blood but this may not be present if there is a sufficient opening into the pleura to allow the blood to flow there. The best guide is the progressive increase in the general symptoms especially circulatory disturbances. In doubtful cases exploratory operation is necessary; this consists in simply following the course of the projectile enlarging it so that sufficient opening is obtained to treat the lesion. In thoracotomy Leonmant recommends that the operation be limited to resecting the fifth cartilage and rib to a length of 6 or 8 cm. sectioning the fourth cartilage at its sternal end and breaking the rib by bending it backward. This gives an opening sufficiently large for suturing the heart wound and makes it easier to spare the pleura the opening of which is useless to say the least.

In cases where there is no orifice of exit the bullet may be in the heart cavity or imbedded in the posterior wall. But there is another possibility it may strike the heart at a tangent and especially in the region of the apex, open up a path through the wall that closes again leaving no opening.

SOULIGNY confirmed this last statement by the description of a case of his own.

ROBINEAU described a case of stab wound of the left ventricle which was sutured without drainage of the pericardium or pleura. The patient recovered with no complications except an aseptic pleural effusion which was relieved by two punctures. The diagnosis was made from the signs of extreme anemia without external hemorrhage or signs of serious internal hemorrhage and from the great increase in the extent of the cardiac dullness.

SARACATO believes from a case of his that deathly paleness with the absence of any considerable internal or external hemorrhage is a good sign of compression of the heart. J. DUBOIS

PHARYNX AND ESOPHAGUS

Lambert A. V. S.: Treatment of Diffuse Dilatation of the Esophagus by Operation; Description of a Hitherto Unpublished Method. Report of a Case. *Surg Gyn & Obst* 4 xviii 1
By *Surg Gynec & Obst*

Lambert divides diffuse dilatation of the esophagus into three groups, depending on the shape of the ectasia: (1) fusiform (2) pear-shaped, (3) "u"-shape.

In the first two varieties Lambert states that the opening into the stomach is the most dependent portion and that these cases may be cured by simple dilatation of the cardia while in the third variety there is a reservoir or dead space lying to the right of the cardiac opening and on a lower level. It is in this last variety that some operative procedure is necessary for a cure.

The author reports a case of the "u" shaped dilatation and describes an operation for its relief. This consists in drawing the dilated lower portion of the esophagus down into the peritoneal cavity through the widened oesophageal opening. The stomach is then opened and a long clamp is so placed that one blade passes into the lumen of the esophagus through the cardiac opening while the other blade remains in the stomach. When this clamp is closed it acts as an esophageal gastrotome and includes between its jaws the cardiac opening of the esophagus, the dilated lower end of the esophagus and a portion of the lesser curvature of the stomach. The clamp lies in situ until adhesions have formed when it is tightly clamped crushing the tissues between the blades. The author concludes:

1. There are a small number of cases of dilatation of the esophagus as a result of cardiospasm, which require operative interference in order to remain permanently cured.

2. This group comprises those cases in which the esophagus has lengthened in addition to having become dilated and in consequence has the form of an "u" shaped curve.

3. These cases may be successfully treated from within the abdomen without fear of infection to the pleura or mediastinum.

They have dissected a pelvis and illustrated the anatomical relationships at the femoral ring to show clearly Cooper's ligament. Their technique is as follows:

1 The incision three to four inches long is made as in inguinal herniotomy but prolonged nearer to the pubis.

2 The aponeurosis of the external oblique is divided in the direction of its fibers.

3 The upper flap of the external oblique, the conjoint internal oblique and transversalis and the round ligament or spermatic cord are next retracted upwards and the lower flap of the external oblique downwards thus exposing Poupart's ligament. The transversalis fascia which is then in view is divided and the edges retracted which exposes the peritoneum and the neck of the sac.

4 The peritoneum is opened at the neck of the sac. The contents of the sac are withdrawn and allowed to re-enter the free peritoneal cavity. If the intestine or omentum be strangulated cutting Gimbernat's ligament relieves the constriction.

5 A dressing forceps is introduced to the fundus of the sac clamped and withdrawn evert the sac and changing the femoral to an inguinal hernia the sac is treated accordingly. If the sac be adherent to the thigh structures it does not evert easily and the incision is then prolonged down the thigh and the sac freed.

6 A deep chromic suture is passed through Cooper's ligament then through the lower flap of the transversalis fascia and the edge of Poupart's ligament. A second and third are passed more internally the innermost picking up Gimbernat's ligament.

7 The closure of layers is the same as in inguinal herniotomy.

Kringl O. A Case of Solitary Rupture of the Mesentery (Über einen Fall isolierter Mesenterialruptur). *D. Berl. 1913*
By Zentralbl. f. d. ges. Chir. Göttingen

A three year old boy was run over by a wagon both front and hind wheels passing over his abdomen. There was dullness in the right side of the abdomen, livid paleness, pulselessness and severe collapse. Upon operation the mesentery was found to be torn near the ileum through an area of 35 cm. 37 cm. of the ileum was resected and after 11 days the patient was discharged cured. If he had not been operated on he would certainly have died of hemorrhage.

The author gives some information as to conditions of the abdomen and especially as to the solitary ruptures of the mesentery in soldiers caused by contusion. The statistics for 1896 to 1906 are taken from Thiele's those for 1907 to 1910 from the report of the Russian army. Of 86 cases, the first period 141 were associated with injuries of the viscera, 9 being in the intestine, the other 62 divided approximately equally among the other abdominal organs. The mesentery was injured

alone only three times and twice in conjunction with the intestine. Of these 141 cases 96 were operated upon the rest treated expectantly.

From 1907 to 1910 the number of cases was 96, 10 of which were not operated upon as the symptoms of shock disappeared after a time and there were no signs of injuries to the viscera. The remaining 86 cases were operated upon. There were isolated injuries of the mesentery in only 4 cases, all of which were mild and the outcome good—resection of the intestine was not necessary. Of these 4 cases, 1 was caused by a kick from a horse, 1 by a blow from the butt of a gun and 1 by a heavy fall on a horizontal bar. The cause of the other is unknown.

Of the 30 cases that died after operation, 17 were injuries of the small intestine, 7 of the liver, 4 of the spleen, 1 of the stomach and 1 was not reported.

From 1896 to 1906 96 laparotomies were performed for contusions of the abdomen of which 36 recovered and 60 died. From 1907 to 1910 86 cases were operated on with 56 recoveries and 30 deaths.

The number of laparotomies for contusions of the abdomen has markedly increased and the recoveries now almost double the deaths due to the increase in the number of early operations.

I. ARTZ LOEB

GASTRO-INTESTINAL TRACT

Lange S. Practical Value of X Ray Examinations of the Stomach. *Ohio St. J. 1914* 20
B. S. 17 Gynec. & Obst.

Lange recounts the contention of Stillé that the X ray bismuth stomach did not represent the true clinical stomach, his controversy with Groedel and the experiments of Groedel, Weber and Von Bergman proving that the X ray stomach though different from the previous conception of that organ is identical with the clinical stomach.

An X ray examination of the stomach must be complete to be of value and the idea of the average patient that a single plate made in a few moments will give detailed information of his condition is an embarrassing ment to the work.

The condition of the patient's nervous system as influencing tonus cannot be disregarded. Distortions due to gas or feces in the colon must be recognized and eliminated. Spasm of the pylorus or the entire pyloric portion of the stomach simulating tumor is the chief disturbing factor in the cases which Lange has examined.

He makes the complete stomach examination in four parts:

1 The patient is given a small watery suspension of bismuth or barium during fluoroscopy the effect of palpation and change of position being noted.

2 The stomach is then filled with bismuth or barium suspended in fermented milk and the size, shape, position and peristalsis are studied fluor-

scopically with palpation and changes of position plates being made at varying intervals

3 Gastric clearance is determined by repeated fluoroscopy or radiography. Either the single Rieder or double Haullek carbohydrate meal may be used. Fermented milk as a vehicle lengthens the time of clearance.

4 For gastric motility and the finer details of peristalsis the stomach is filled and a series of plates is made with the patient prone.

Lange prefers to make plates at longer intervals than is suggested by some observers.

The flat gastric ulcer is not directly recognizable by the X-ray method. Peristalsis is apt to be deeper than normal. There may be spasm of the pylorus and a silv hour residue. A deep constriction of the greater curvature opposite the ulcer may be seen. Such constrictions, however, may occur opposite the scar of a healed or excised ulcer or as a result of spasm from hysteria, tabes, and intoxications.

In callous and perforating ulcer the radiological signs are more distinctive. Among these are (1) Organic hour glass stomach (2) accessory pouch (nischen symptom of Haudlek) (3) deformity of the antrum by an old pyloric ulcer (4) increased peristalsis and 12 hour residue with obstructing pyloric ulcer (5) very characteristic for fibrous obstruction at the pylorus is a greatly enlarged pars pylorica with a much distended pyloric antrum and evidences of hyperperistalsis.

The X-ray evidence of gastric cancer varies with the location and character of the growth. A medullary cancer of the cardiac portion of the stomach beginning in the greater or lesser curvature may be recognized comparatively early as a defect or deformity of the outlines of these parts. If on the anterior or posterior walls of the cardiac portion, it may escape recognition until it encroaches considerably on the lumen. Scirrhus in this region may shrink and contract the contour. Either type may produce hour glass. Medullary growths at the pylorus may cause filling defects, interruption of peristalsis and delayed clearance with six hour residue. Large medullary pyloric growths may result in a long narrow pyloric channel or the pars pylorica may seem to be completely absent. Scirrhus growths in the pars pylorica result in lack of distention without gross irregularities, absence of peristalsis and rapid clearance through a pylorus held open by infiltration. If a palpable tumor mass be present its relation to the stomach may be determined by passing wire on the tumor outline and then making the X-ray examination.

Diagnosis of gross lesions of the duodenum and gall passages may be made. The duodenal cap may be distorted by adhesions or obstructed by the scars of an old ulcer. Early there is hyperperistalsis with normal gastric contour and absence of the cap. If the lumen of the duodenum is greatly narrowed. Adhesive processes in the upper right quadrant of the abdomen tend to lift up the pylorus and pull it over to the right.

ALBERT MILLER

Eusterman G B: Incidence and Diagnosis of Complicating Factors in Gastric and Duodenal Lesions. *Am J Gastro Enterol* 1914, 11, 1-11.

By Surg. Gynec. & Obst.

The material for the following study was obtained from cases operated on in the Mayo Clinic from 1906 to 1912 inclusive and consists of 778 cases of duodenal ulcers, 324 cases of gastric ulcers and 691 cases of gastric cancer. From a careful study of the cases at hand the author comes to the following conclusions:

Pyloric obstruction or stenosis of variable degree was present in an average of 30 per cent of all chronic simple gastric and duodenal ulcers and in 54 per cent of all gastric cancers. This condition occurs chiefly in cases in which the ulcer is situated in or near the pylorus or in the first two inches of the duodenum. The diagnosis depends upon a history of vomiting and removal of retained food material from the stomach upon the demonstration after six hours on the roentgen plate of a residue of bismuth or barium sulphate administered in some suitable medium. Apparent obstruction may be due to pylorospasm. Extragastric causes are usually due to gall bladder disease complicated by perforation or adhesions and impinging the pyloric end of the stomach or duodenum.

Perforation was a complicating factor in 28 per cent of 778 cases of duodenal ulcers, in 25 per cent of the 324 cases of gastric ulcers and in 35 per cent of 691 cases of gastric cancer. The diagnosis is usually made on a history suggestive of ulcer occasionally of cancer associated with one or more attacks of acute epigastric pain although slow chronic perforation may occur without severe pain. The diagnosis of cholelithiasis is often erroneously made in those cases in which there is an early perforation without the association of sufficient gastric disturbances suggestive or characteristic of ulcer. Perforating ulcer of the stomach is usually demonstrable on the roentgen plate.

Hæmorrhage in chronic simple ulcer of the stomach or duodenum is a less frequent complication than is generally supposed. Definite profuse melæna or hæmatemesis or both, was noted in 20 per cent of all duodenal and in 30 per cent of all gastric ulcers. In a total of 817 gastric and duodenal ulcers an average of 23 per cent gave evidence of gross bleeding from the stomach or bowel or both. Conditions most likely to give rise to error in diagnosis are those cases of gall bladder or appendiceal disease associated with gastric disturbances in which gastro intestinal hæmorrhage—3 per cent and 2 per cent respectively—of various degrees may occur.

The accepted symptom-complex of gastric ulcer is often the precursor of gastric cancer. This association was definite in 41.8 per cent and irregular in 28.7 per cent of all gastric cancers in this series. Conservatively in all cases of gastric cancer there is clinical evidence of a pre-existing ulcer in over 55 per cent. In about 60 per cent of malign

nant tumors of the stomach there is pathological evidence of pre-existing ulcer. In numerous instances when the clinical history and gross appearance of the lesion was that of a benign peptic ulcer definite microscopic evidence of malignant hyperplasia of the mucosa of the borders only was shown.

Hour glass deformity occurred in 10 per cent of the gastric, one half per cent of the duodenal ulcers, and one per cent of the gastric cancers. The diagnosis was usually made at the operating table and was rarely made clinically until the fluoroscopic screen and roentgen plate came into routine use.

Coincident or associated disease of the appendix 2 per cent or gall bladder 8 per cent requiring additional operative interference was present in 33 per cent of all cases of duodenal ulcers and in 16 per cent and 4 per cent respectively or in a total of 20 per cent of all the cases of gastric ulcers. Pancreatitis was noted in twelve instances in the former group and once in the latter. The pancreas was usually involved when perforation was present.

The presence or absence of metastases is of the greatest clinical import in the presence of probable gastric cancer. Even when metastasis has already taken place external evidence is often lacking that is the presence of palpable glands in the left supraclavicular space of an infiltrated navel free fluid in the abd. men. palpable nodules on the anterior rectal shelf in the male or in the tissues above and behind the uterus in the female. In this series of 691 cases of gastric cancer which came to operation metastasis had already taken place in 128 or 18 per cent.

J. H. SKILES

Mayo W. J. Chronic Ulcers of the Stomach and Duodenum. *T. Inter. S. G. A. N. Y.*
p. 4 April. By Surg. Gynec. & Obst.

In the first period from 1893 to 1900 operation for pyloric obstruction was applied only to patients with marked pyloric narrowing little differentiation being made in the chronic cases between ulcers in the pyloric end of the stomach and in the duodenum. The results were excellent.

The second period from 1900 to 1906 was marked by growth of knowledge resulting from surgical observation. During this period it was recognized that obstruction was a terminal condition and study of the trouble was taken up with a view to the earlier termination of a malady which exposed the patient to serious dangers and more or less constant disability and distress. There was much discussion of mucous ulcers and a variety of supposed lesions which were not the result of actual observations at the operating table but of an attempt to furnish a pathological basis for the symptoms complained of by the patient.

In the third period from 1906 to 1914 there was improvement in diagnosis and development of better technique. The relation of the clinical symptoms to the lesion was shown in the light of operative experience. Great aid was obtained from the roentgen ray.

Up to Dec. 31, 1913, 1,841 cases of acute and chronic ulcers of the stomach and duodenum had been operated on (457 females, 1,384 males) demonstrating the early clinical view of a preponderance of females over males to be in error. Probably the large number of these supposed ulcers in women were the result of pyloric spasm due to gall stones or intestinal lesions. In 636 of the 1,841 cases the ulcers were located in the stomach in 1,205 in the duodenum. Multiple ulcers occurred only in 4 or 5 per cent of the cases.

The character of ulcers of the duodenum may differ in many respects from ulcers of the stomach. They are usually found in the upper two inches of the duodenum and many times with no crater such as exists in the stomach but rather a discolored moth eaten patch in the center of which is a slit or dimple-like ulcer but with typical induration in the peritoneal and muscular coats. Incomplete protected perforations are common. Definite healing of the chronic ulcer of the stomach or duodenum is rare. Temporary subsidence of symptoms is often taken to be a cure as is the case in cholelithiasis and appendiceal disease.

Gastrojejunostomy is the most generally successful operation. Ulcers should be excised when it is possible to do so without too much risk. Duodenal and gastric ulcers obstructing the pylorus yield equally good results following operation. The greater the distance of the gastric ulcer from the pylorus the greater the mortality and the less certain the cure. Ninety eight per cent of the duodenal ulcers and 95 per cent of the gastric ulcers will be cured or greatly relieved by operation—the operative mortality of duodenal ulcers being one and one half per cent the operative mortality of gastric ulcers including acute perforations, acute hemorrhages, resections, etc., 3.8 per cent.

Steinhardt E. C. Experimental Production of Gastric Ulcers by Intravenous Injection of Clumped Colon Bacilli. *Lancet-Cl.* 9, 4, 1, 87. By Surg. Gynec. & Obst.

After discussing the work done by other men on gastric ulcer the author describes the method he employed. The colon bacilli were clumped by using a one twelfth normal hydrochloric acid solution and a twenty four hour broth culture. 2 ccm of broth being used to one of hydrochloric acid. This solution was incubated for twenty four hours and centrifuged; the sediment was washed twice with normal salt solution and then shaken up with 10 ccm of fresh saline. The turbid fluid was injected intravenously into rabbits.

The following is a typical protocol. A large white rabbit injected with 4 ccm died twenty two hours later and was examined immediately. The stomach showed two erosions at the pyloric ring; the lining of the stomach was thickly covered with digested blood; all other organs were negative.

The results show that gastric ulcers and hemorrhagic erosions can be experimentally produced by

Intracranial injections of very small doses of clump colon bacilli from the author reasons that there is probably a continual absorption of the colon organism and its toxin through the intestinal wall. During constipation this absorption is increased and is the etiological factor in the production of gastric ulceration in human beings.

From J. C. C. 111

Richter H. M.: Congenital Pyloric Stenosis; a Study of Twenty Two Cases with Operation by the Author. J. Am. M. A. 1914 1: 333
By Surg. Lynch & Co.

Nineteen of the cases reported by the author were of the hypertrophic type. Pyloric stenosis and the other three were of the spastic type. In all the former a definite firm olive shaped tumor was demonstrated at operation and in eighteen of them it was palpated and recognized before the abdominal wall was opened. There was no real evidence of inflammation and no attempt at incision. There was no gradation between the tumor mass and the adjacent stomach and duodenum. The tumor is more constantly palpable clinically when the stomach is emptied either by vomiting or by a tube. The mucosa of the pylorus was relatively redundant in three cases in which it was carefully observed. The histological findings in one case which came to autopsy showed a simple hyperplasia of the circular muscular fibers with no change in any other structure of the pylorus.

The stomach when not emptied before operation was always found distended to a marked degree. The duodenum was always empty and collapsed. It was perfectly evident that the tumor formed a complete obstruction to the canal. In none of the cases was there any accompanying congenital malformation although in one a particularly short mesocolon made it impossible to do a retrocolic gastrectomy. Fifteen of the babies were males and all were the first born to the parents except one. There was no familial path of inheritance in that could be ascertained.

The onset of the trouble in most cases has been within the first three weeks of birth. It usually begins with vomiting or regurgitation accompanied by loss of weight and failure to gain. Vomiting is very often with a feculent odor and the vomit has a greenish color. The progress has been uniformly progressive and the progress has been arrested for more than a few days at a time. There has been no intestinal rigidity or other features suggestive of peritonitis. The babies have usually been fed by the breast and passively tolerated the upper abdominal bulging and flatulence across the upper abdomen from under the left costal border towards the right extending rarely to the umbilicus. Waves have always been visible down the front on examination they had been induced by giving the baby food or air. They were so marked that they would readily be demonstrated to the audience in a large amphitheater. Finally

in eighteen of the nineteen cases the tumor could be readily palpated.

It is particularly important that the roentgen ray as a diagnostic tool can be limited to determining the rate of emptying of the stomach not the patency of the stomach. The tumor causes a mechanical blocking of the pylorus and it is possible to pass a fair sized sound through the opening at operation, but the blocking is comparable to that seen in the urethra by a hypertrophied prostate gland. Therefore to exclude a diagnosis of hypertrophied stenosis on the basis of the passage of bismuth is sure to lead to serious error. It is conceded that sufficient patency may exist to maintain life even after temporary total blocking has been evident. It is on this basis that we can account for the recoveries reported by competent observers. The recovery does not imply the disappearance of the tumor.

There is nothing in the nature of hypertrophic stenosis that essentially precludes a permanent closure and the author knows of no good reason why these tumors should not ultimately disappear. They are not neoplasms but simple muscular hypertrophies. The indication for operation is not strengthened by proving the permanency of the mass. The fact that it does not disappear quickly enough is the essential absolute indication for surgical interference.

In this series of cases the mortality was 13.6 per cent. Of the 22 operations 10 were typical posterior gastro-enterostomies, with 3 deaths, a mortality of 30 per cent. A submucous pyloroplasty was done on 3 babies and on 2 a duodenotomy of the pylorus. Of the 3 deaths that occurred it was essentially a result of the child's condition and represents an irreducible mortality to that must be.

In 10 babies 4 patients are not clearly regarded as surgical cases. Two of the cases were clearly attributable to faulty technique. Of the 10 patients who survived operation 1 died of what was diagnosed as an acute food intoxication. Two cases had post-operative sequelae necessitating reopening of the abdomen. One developed an acute intestinal obstruction 4 weeks after the operation. The other had volvulus of the entire small bowel. Both were resected with successful operation.

The patient are usually well and the outlook is generally bright. The result shown so far. There are usually some vomiting during the first week following the operation. In nearly all the cases the vomiting will soon subside. The patient left the hospital and was usually gaining weight. Vomiting has not recurred in any case. There were no disturbances of general digestion. In the first 5 weeks following operation there was usually a loss in weight but following this the gain in weight was pronounced and continuous. From L. C. 111.

Van Lenn P. W. B. J. Junotomies Habemus
Month 19 4 11 By Surg. Lynch & Co.

The author reports a gastric cancer in which he performed jejunostomy with gratifying

results In his experience he has found it preferable to posterior gastro enterostomy in malignant cases The cases which give sufficient healthy tissue for an anastomosis between the stomach and intestine usually permit of a gastrectomy while in the more extensive growths the condition of the patient is such as to make a quicker and simpler operation desirable Bile and pancreatic juice have a free exit the food goes into a portion of healthy intestine where it is readily assimilated and therefore feeding can be forced and the patient built up With good technique leakage need not be feared and the attachment of the intestine to the abdominal wall appears to cause no trouble even though the case be one in which the fistula can be subsequently dispensed with which is not the case with gastrotomy where the attachment interferes with motility more or less

This operation is also indicated in those cases of benign ulcers which are too large to remove In this way the stomach is put at rest and the ulcer given an opportunity to heal provided there is no obstruction The author does not wish to belittle gastrotomy and gastro enterostomy but their limitations must be recognized and jejunostomy employed when the former are not indicated

LOWARD L. CORNWELL

Dieterichs M The Mechanism of Invagination of the Intestine (Über den Mechanismus der Dmignation) R sat i k St Petersburg

93

403

By Ze trabl f d ges Chir u i Grenzgeb

Having had seven clinical cases on five of which he operated the author took up an extensive experimental study of the mechanism of intestinal invagination First he studied normal peristalsis and antiperistalsis following Prutz and Ellinger's experiments Then 23 experiments were performed on rabbits and dogs for an investigation of physiological invagination

The invagination was produced by electrical or mechanical stimulation He observed that a piece of the intestine contracted spastically and generally the anal contracted section formed an umbrellalike projection and the contracted portion was invaginated into it In this way invaginations as much as 3 cm long occurred but were generally freed again after ten minutes at the most He believes this is explained by contraction of the circular musculature of the intestine and that the further progress of the invagination is caused by the contraction of the circular musculature not as other authors claim by that of the longitudinal muscles When the latter contract the invagination is loosened but since invaginations of different extent take place under the same degree of stimulation there must be other factors involved Peristalsis can hardly be held responsible as it stops when the animal is anesthetized therefore he thinks it the pendulum movement of the intestine The invagination is larger or smaller according to

whether the pendulum movement is in the direction of the invagination or vice versa

In order to find out how a physiological invagination is transformed into a pathological one he tried to establish artificial invagination and keep the intestine in that position This could be accomplished only by close button sutures or a continuous suture as the invagination was always freed again even coming out between the sutures when they were placed far apart The invagination remained only when the last loop of the small intestine was invaginated into the cecum so that the valve of Bauhin formed the neck of the invagination probably because the continuity of the longitudinal musculature necessary for freeing the invagination was interrupted by the valve of Bauhin Special conditions are also necessary to prevent the freeing of an invagination These conditions are created when the muscle elements of the intestine are injured functionally and weakened as the author proves by artificially induced enteritis

It has been claimed that an invagination once produced necessarily increases, but the author denies this emphatically as his experiments have proved the contrary and he comes to the conclusion that a physiological invagination is easily produced but that it becomes pathological only when certain conditions are fulfilled either the stimulation which produced the invagination must continue uninterrupted or with only short interruptions as is the case in tumors and diverticula of the intestinal wall and in foreign bodies parasites etc or the function of the intestinal musculature must be injured so that the balance between the action of the circular and longitudinal fibers is destroyed This is the case in ulcer hemorrhage in the intestinal wall—purpura hemorrhagica—and in functional disturbances from intoxication or infection lead poisoning enteritis From further experiments he concludes that for the production of a progressive pathological invagination both of these conditions must be fulfilled Vov Hofer

Cope V Z The Early Diagnosis and Treatment of Ruptured Intestine La i Land 914
1 64 B3 57 Gynec & Obst

When the intestine is ruptured as the result of a blow on or crush of the abdomen the symptoms can be considered as due to the supervent on of shock, the occurrence of peritonitis or the presence of gas or fluid in the peritoneal cavity The symptoms in the order of their relative frequency are pain vomiting marked restlessness persistent superficial respiration and pain on deep breathing shock local tenderness rigidity distention added dullness rising pulse diminished liver dullness and occasionally melena and emphysema

The majority of cases have to be diagnosed by the symptoms of peritonitis of rapid or delayed onset It is often delayed after rupture of the intestine because the intestinal paresis caused by the injury inhibits peristalsis and allows time for the exudation

of plastic lymph which seals the opening. Pain when continuous and increasing in severity is the most reliable symptom and is demonstrated in four ways: (1) first the expression of pain at the site of the lesion (2) third pain evoked by deep pressure over the site of the lesion (4) fourth in many cases the pelvic peritonism as felt by rectal examination is painful on pressure. Vomiting of bilious material is said to be especially significant diminution or absence of the liver dullness is a symptom which ought never to be waited for.

The author believes it advisable to open the abdomen on the suspicion of ruptured intestine if the following conditions be present: (1) When severe abdominal pain persists for more than about six hours after an injury if the pain be accompanied by either (a) vomiting especially bilious vomiting or (b) a pulse gradually rising from the normal or (c) persistent local rigidity tending to extend or (d) deep local tenderness with shallow respiration and (2) when abdominal pain is absent or only light but the pulse rises steadily hour by hour and the patient is very restless or listless. When in such a situation the diminution of the liver dullness occurs with any of the above symptoms or if there be signs of free fluid in the abdomen the indications for operation would be imperative.

The recognized treatment of ruptured intestine is operation and the best is to suture if possible. If the tear be too large for successful suture without narrowing the lumen of the bowel dangerously a lateral anastomosis may be done while in many cases resection of the affected part is clearly required. If the duodenojejunal junction be the part affected a gastroduodenostomy should be performed. The author believes (1) that irrigation with saline solution is inadvisable in cases operated on early but that with late cases the matter is not of much consequence and (2) that drainage is probably the safest plan. The author reports two cases both operated on about twenty hours after the injury, both with rupture of the upper jejunum and with recovery of both.

D. C. BURTON

Zander P. Critical Review of the Appendicitis Cases for the Last Three Years at the Surgical Clinic of the University of Halle a. S. (Hallsche Klinik über die Appendicitis-fälle der letzten Jahre in der chirurgischen Universitätsklinik Halle a. S.) A. h. f. Ch. 913
914 By Zentralbl. f. d. ges. Ch. u. Gynäc.

In the last three years 304 cases of acute appendicitis were operated on in the clinic. 36 per cent in men and 44 per cent in women with a mortality of 9.7 per cent. The cause of the 1 per cent percentage was the preponderance of late operations. As there was general peritonitis in 10.6 per cent early operation is advised. Prognosis is impossible without laparotomy. The expectant treatment is not justified for more than 24 hours and only if the symptoms improve decidedly. In late cases operation is performed for abscess progressive peritonitis pure

inflammations of the appendix and in severe cases of the so-called interval period.

The cardinal principles in operation for appendicitis are: (1) Early operation (2) quick removal of the diseased focus as conservative operation as possible and general treatment. Irrigation and sponging are of equal value in the diffuse form. The loosening of fibrin deposits is rejected by the author as well as Frank's radical operation. Murphy's method consisting of quick operation opening the abdomen through a small gridiron incision, removal of the appendix thick drain in Douglas pouch small buttonhole incisions with thick drains, no irrigation, no sponging, complete closing of the abdominal wound except for the drain and Fowler's position seems to him the best because of its conservative nature and quickness. Fowler's position is the best for the discharge of the pus. As for the interval operation it should be performed only for absolute economic or personal indications. Instead it is better to wait for another attack and operate early.

WATZKE

Henderson P. A. and Blything J. D.: Pneumatic Rupture of the Bowel. Surg. Gyn. & Obst. 1914 21 73 By S. K. Gynec. & Obst.

The authors report a case occurring in their own practice of multiple rupture of the bowel resulting from the application of the nozzle of a high pressure air hose to the anus of the victim by a fellow workman and in addition give details of six other cases of a similar nature hitherto unpublished.

The lacerations of the bowel in this instance were 11 in number, 9 in the large and 2 in the small gut and 11 in the mesentery. In length they varied from 2 to 7 inches. Operation was followed by recovery.

The points emphasized by the authors are: (1) That it is possible and often necessary to make a diagnosis of this form of accident from the physical findings alone though the chief diagnostic value arises from the local signs common to all severe intrabdominal injuries being the enormously distended tympanic abdomen and (2) that this is a type of industrial accident that is becoming quite frequent since the introduction of compressed air in modern shops and that strict measures should be taken to guard against its occurrence as it is always the result of either gross carelessness or rough practical joking.

Rotter J. Surgical Treatment of Carcinoma of the Colon. / chirurgischen Behandlung der Colomakarzinome. Arch. f. Chir. 913
915 By Zentralbl. f. d. ges. Chir. u. Gynäc.

The author reports 160 cases from 1893 to 1912 79 of which were operated upon radically and 81 which could not be so operated upon either because the tumor was so far advanced that it could not be completely removed or because the patient came to the hospital suffering from leucemia and died as the result of the operation for leucemia.

Rotter agrees with Korte, Petermann and Anschutz that if ileus is present the operation should be limited to the creation of a fecal fistula since these patients are so weak that they can not stand anything more but even the relatively simple procedure of making a fecal fistula gives in Rotter's statistics a mortality of 44 per cent. Enterostomy in ileus gives 60 per cent and advancement and resection 70 per cent. However the results of the radical operation in cases where there was no ileus were very satisfactory of the 79 patients operated on radically 15 died or 19 per cent.

In all the tumors of the cæcum and ascending colon the end of the ileum and the entire ascending colon were removed and the ileum implanted end-to-side or side to side into the transverse colon—seventeen operations of this kind gave a mortality of 17 per cent. The free end of the transverse colon was formerly closed by crushing ligation and invagination recently by continuous suture and invagination.

In carcinomata at the middle of the transverse colon or below Mikulicz advancement was performed in some cases and primary resection with circular suture in some. Of 27 cases operated by Mikulicz method in two stages there was a mortality of 18 per cent while of 21 by circular suture 6 died. Circular suture is absolutely contra-indicated by much fat in the intestine, an intestine very much filled with feces, impossibility of complete mobilization and suture without tension. In 11 cases in which the transverse colon was united to the descending colon end to side or side to side there was a mortality of 10 per cent. Ileostomy with exclusion of a segment of the intestine was performed three times with good results in cases in which the ends of the intestine could not be sutured without tension.

ADLE

Terrell E. II The Radical Treatment of Hemorrhoids under Local Anesthesia *Int J Surg Gynec & Obst* 1914 23: 914

The author states that he is now performing most of his hemorrhoidal operations under local anesthesia. He uses novocaine or a combination of this with quinine and urea. Most of the patients are treated in the office and are enabled to continue their daily occupations.

The technique used is as follows:

The largest pile is brought down, cleansed with an antiseptic solution and infiltrated with a solution containing one per cent quinine and urea and about one tenth per cent novocaine. A clamp is applied and fine linen ligatures placed in two or more sections depending upon the size of the tumor. The most important ligature is the one placed in the uppermost portion of the hemorrhoid for here the main blood supply enters. In fact the others are then discarded altogether. With a sharp pair of curved scissors the pile is cut off close to the ligatures leaving sufficient room however to prevent slipping. The stump is inspected to see that there

is no undue bleeding and returned above the sphincters. The patient should be down for a few minutes and then may be allowed to go about his business. Seldom do patients treated in this way complain of pain. Occasionally there is a slight throbbing sensation for a few hours and some soreness but quinine and urea often retains its anesthetic effect for several days and is sufficient to keep the patient comfortable if a proper technique has been carried out. In four or five days after the first hemorrhoid is removed another is treated in the same manner and so on in succession until the patient is cured.

The parts must be handled as gently as possible for post-operative pain is often due to unnecessary traumatism. Another factor in the production of pain after operations for hemorrhoid is that portions of cutaneous tissue are included within the loop of the ligature.

EDWARD L. CORVELL

LIVER, PANCREAS AND SPLEEN

Vénel E. Large Tubercular Abscess of the Liver and Its Clinical Diagnosis (*Le gros abcès tuberculeux du foie et son diagnostic clinique*) *Tul 1914* 19: 327 *Bj Journal de Chirurgie*

Tubercular abscess of the liver is rare therefore it is not generally taken into consideration in the differential diagnosis of soft tumors of the liver. There are no special signs to distinguish it from ordinary abscess of the liver except the absence of fever and its slow development. These would indicate it to some degree especially if there is no eosinophilia and if Weinberg's reaction is negative. These signs would exclude hydatid cyst as is illustrated by the following case:

A young man of 25 noticed a small tumor developing in the right hypochondrium and in a few weeks it had reached the size of a mandarin. It was painless at first but later became sensitive and finally painful which led him to consult a physician. On examination a tumor the size of a small orange was found under the anterior abdominal wall, absolutely immobile, painful on pressure and showing no hydatid thrill. It was round, not nodulated and evidently intimately connected with the border of the liver. Vénel immediately thought of hydatid cyst but there was no eosinophilia and Weinberg's reaction was negative. Then the author discovered a sign which has always aided him in the diagnosis of tubercular abscesses in the glands or elsewhere—a feeling of peripheral induration with an irregular depression in the center. Moreover the patient's facies was indicative of tuberculosis and there were signs of localized tuberculosis at the right apex therefore, a diagnosis was made of tubercular abscess of the liver. This diagnosis was confirmed on operation which showed pus that appeared tubercular. The pocket which was as large as a man's fist occupied the convex surface of the liver. After being emptied out a large drain was left. The result was perfect. The drain was removed on the ninth

day and the pocket closed rapidly at the end of six weeks when the patient left the hospital only a small fistula remained which seemed to show a tendency to

close completely. A cobra was inoculated with some of the pus and when killed three weeks later showed very distinct tubercular lesions. J. Dwyer

SURGERY OF THE EXTREMITIES

DISEASES OF THE BONES JOINTS MUSCLES TENDONS. CONDITIONS COMMONLY FOUND IN THE EXTREMITIES

Galile W. E. and Robertson D. F.: The Periosteum. *C. ad J. I. J.*, 1914, iv, 33.
By Surg. Gynec. & Obst.

The authors tell of a series of experiments designed to test Macene's theory of the function of the periosteum. These consisted of operations on animal in which the bones were denuded of periosteum or enveloped in tin foil and other materials underneath the periosteum. In another series, the bones of young puppies were surrounded with metal rings or tin foil placed under the periosteum and after the animal had grown considerably the specimens were recovered. In a third series the bones were injured by saw cuts or fractures and the results observed when the injured areas were surrounded with periosteum tin foil steel plates or wax. The conclusions arrived at were in agreement with Macene's theory that periosteum acts merely as a limiting membrane and is not osteogenic. Osteogenesis appears to be solely a function of the endosteum. In relation to the making of bone grafts the absence of periosteum in small grafts produces no ill effect as the authors succeeded in getting all of a series of grafts to take in spite of the complete removal of the periosteum in each case.

Wagner G. A. Family Chondrodystrophy Etiology and Pathogenesis of Chondrodystrophy (*Über familiäre Chondrodystrophie. Beitrag zur Ätiologie und Pathogenese der Chondrodystrophie*). *Arch. f. Gyn. u. St.* 1913, 7.
By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Gynäc.

The author reports a case of direct transmission of chondrodystrophy from mother to child. For the past few years the influence of heredity and family predisposition in this disease have become better known. The transmission generally from father to child only 11 cases from mother to child having been reported. It is therefore too much emphasis has been placed on the changes in the skeleton the whole organism especially the function of the glands with internal secretion should be studied. Recent investigators go that achondroplasia has nothing to do with it.

The histological picture shows irregularity in the columns of cartilage cells which are pushed away from each other especially in the peripheral part as if the perichondrium had been driven into the cartilage. Whether this is primary abnormality of

development in the cartilage a focal chondritis or whether it is due to bacteria is not known. The author believes that this disturbance in endochondral bone formation is associated with abnormally strong tension in the direction of the long axis of the bone by the hypertrophied muscles and that this causes micromelia.

It is not known how much the internal secretory glands have to do with chondrodystrophy but it is certain they have some influence. Chondrodystrophy cannot be regarded as a premature osteogenesis caused by hyperthyroidism for an enlarged thyroid has never been demonstrated in connection with it and the symptoms are in direct contrast to those of Basedow's disease which is due to hyperthyroidism. The author believes it is due to a hyperfunction of the reproductive glands. It is certain that hyperfunction of these glands can cause abnormal development of the muscles and genitalia. This genital hyperfunction produces a disturbance resulting in endochondral growth of bone and micromelia the latter is increased by abnormally strong traction of the hypertrophied muscles. R. R. R. R. R.

Mutet: Pathogenesis of Idiopathic Cysts of Bone and Swollen Callus (Considérations sur la pathogénèse des kystes ostéoclastiques et des callus). *Rev. d'orthop.* 1913, 423.

By Journal de Chirurgie

Mutet endeavors to explain the pathogenesis of idiopathic bone cysts. There is perhaps no more complex and confused question in bone pathology than that of nonparasitic cysts of the long bones. Idiopathic cysts must be distinguished from parasitic cysts caused by echinococci and cysticercus from the cyst of attenuated osteomyelitis, which are rather subperiosteal than intra-osseous and from the neoplastic pseudocysts due to the softening and partial liquefaction of certain neoplasms of the bone.

Mutet concludes from his investigation that idiopathic cysts of the bones and swollen callus are two similar benign affections with the same etiology found especially in the young and at the juncture of the diaphysis and epiphysis. The diagnosis is difficult and yet of the greatest importance the disease with which it is most apt to be confused is sarcoma. All possible clinical and radiographical data must be obtained supplemented by an examination of the histology if necessary in order to avoid a serious and irreparable mutilation. Bone cysts may be treated by careful curettage by complete immobilization or by puncture followed by medicinal injections.

In regard to pathogenesis Mutel gives the following conclusions. Bone cysts and swollen callus do not show any signs of new growth to explain their origin. There is generally a history of traumatism which may have acted on a bone already diseased or on a healthy one. If it occurs to a bone already affected with fibrous osteitis it hastens its local development and causes a deviation in the form of a cyst, or if it is applied to a healthy bone it produces more or less extensive attrition, but the reparative processes are deficient. The traumatism may involve a region of the bone that is supplied by terminal arteries because of the absence of a collateral circulation; a bruised fragment bathed in blood it is liquefied and the blood as it cannot be absorbed becomes encysted. Or an accidental cause may exaggerate the phenomena of absorption which are combined with those of apposition in all repair of bone; this cause may be a defective immobilization, the lack of immobilization or a too vigorous massage.

However ingenious Mutel's hypothesis may be it seems to depend too exclusively on the idea of trauma and does not sufficiently explain the dystrophic or inflammatory condition which is the origin of all so called idiopathic bone cysts.

ALBERT MOUTER

Haller: Osteomyelitis of the Astragalus (Ostéomyélite du astragale). *C. G. P. s. fra. G. de h. Pa.* 9 3 Oct. By Journal de Chirurgie

Haller reports a case of primary osteomyelitis of the astragalus which is a rare disease as only five cases have been published. The author has been told of two other unpublished cases which makes a total of eight cases, one case in a man the rest in women. Streptococci and staphylococcus aureus were demonstrated in two of the cases; necrosis is frequent. In secondary osteomyelitis the lesions are peripheral instead of being central as in the case under discussion; there are no special symptoms although tuberculosis is generally suspected and operation is the only means of eliminating this supposition. Radiography is the only means of diagnosis. Operation should be performed as quickly as possible—drainage and sometimes astraglectomy.

J. DUMOVR

Fitzwilliams D. G. L. Syphilitic Affections of Bones in Childhood. *C. J. 9 4 1 33.* By Surg. Gynec. & Obst.

The terms congenital and hereditary applied to syphilis are misnomers, as all forms of syphilis are acquired either before or after birth. The different manifestations in the young and in the adult are due to difference in resistance and to structure of the tissue especially of the bones. The affection called syphilitic piphysitis is better described by the term osteochondritis because the epiphysis is not affected. The periosteum or perichondrium of the entire length of the bone is affected but the symptoms are referred to the joint region because

the muscular attachments there cause pain on motion. The relative frequency of location is in the following order: humerus, radius and ulna, femur, tibia and fibula. It may occur in the perichondrium of the laryngeal cartilage and prove fatal. The patients are practically always less than six months old.

In syphilitic dactylitis, which is rare, there is thickening around the joints of the fingers and thumb especially the proximal side as shown by roentgenogram; there is no pain and the bones do not break down and discharge. It is rarely seen in children over three years of age.

Periostitis may be local or general. The patient is usually over four years old. The local form is commonest on the anterior tibia and probably starts with trauma. The node of new bone is single and does not surround the bone as a sarcoma. It is tender but not painful. There is a diffuse or generalized form in which the periostitis involves the entire shaft. The bones are not very tender but there is vague pain especially at night. This is the form in which occurs the anterior saber-like bowing of the tibia distinguished from rachitic bowing which is sharper and just above the ankle. There may be an increased growth in the length of the tibia noticeable only when the disease is unilateral due to increased vascularity on the shaft side of the epiphyseal plate.

Syphilitic osteomyelitis is a gummatous manifestation of the disease. The entire thickness of the bone is involved. The bone increases in size by formation of new bone externally while destruction goes on inside. It may resemble sarcoma but is not as well circumscribed as that growth. Spontaneous fractures occur.

W. A. CLARK

Boorstein S. W. Syphilis of Bones and Joints with a Report of Ten Cases. *Surg. Gynec. & Obst.* 9 4 XVII 46. By Surg. Gynec. & Obst.

The writer gives a short résumé of the facts known up to recent date of the pathology, symptoms, radiographical findings, diagnosis, and treatment of this condition. He urges the importance of placing bone and arthritic cases coming under the observation of the orthopedist in the literature so that early diagnosis can be made. He adds four cases of Charcot's disease to the literature, one of them is a vertebral osteoarthropathy with destruction of the body of the second cervical with pressure paralysis. He emphasizes the following points in the pathology:

1. Bone lesions of hereditary syphilis take the form of osteochondritis with gelatinous masses under the periosteum with frequent necrosis while in late hereditary syphilis there is the cortical thickening with calcareous deposits beneath the periosteum.

2. Acquired syphilis shows the same findings as late hereditary. (a) there are bone gummatas and the periosteum is markedly thickened. (b) hereditary joint lesions take the form of exudative arthritis.

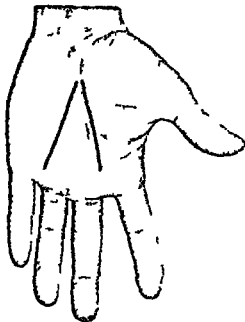


Fig 1 (Picqué) Incisions to open a phlegmon of the palm

3 Acquired syphilitic joint lesions are rarely found in the secondary stage when present they give rise to hydrops. In the tertiary stage the bones and joints are involved and so either the synovial form is present or the bones present marked hyperostosis. The author reports two cases illustrating acquired syphilitic joint lesions simulating tuberculosis where distinct bony changes in the radiographs involving mainly the periosteum are present.

Picqué R: Surgical Treatment of Infections of the Palm of the Hand (*Traité t Chirurgial des infections de la paume de la main*) *J de chir* 1913 21 409 By Surg Gynec & Obst

There are few surgical conditions which require a more extensive knowledge of anatomy and finer application of deductions drawn therefrom than infection of the palm of the hand. Picqué by means of good illustrations and clear text discusses the anatomical considerations in regard to the synovial sheaths, the abnormal communications of these sheaths and the deep cellular tissue of the palm in their bearing on the ascending course of infections. The important relationship of the tendon sheaths to the structures of the palm, the wrist and the forearm are described after which the author tells of his operative technique which is as follows:

First it is necessary to differentiate a simple phlegmon of the palm i.e. dorsal swelling per flexion of the fingers from an infection of the tendon sheaths intense pain of a hand from fixed flexion,

high fever. The phlegmon of the palm demands that the deep layers be opened, thus the author accomplishes by the same incision he uses to expose the deep palmar arch. This incision runs from the top of the V of the hand to the second interdigital space exposing the flexor tendons of the four fingers. The incision is carried down to the superficial palmar fascia which is in turn incised from below upward on a grooved director. The termination of the cubital artery is cut between ligatures full exposure of the second interspace being made the flexor tendons being left untouched. If the phlegmon has its start from near the annular ligament a supplementary palmar incision is made beginning at the flexure fold below the wrist and running along the hypothenar eminence external to the flexor tendon of the fifth finger. Drainage is applied to the deep layers of the palm; the tendons being easily avoided.

The suppurative palmar synovitis is conceived of as having three stages: (1) Digital synovitis (2) palmar synovitis (3) phlegmon of the forearm. These conditions may exist in any stage and frequently the first is rapidly followed by the second and third. To illustrate this technique the author cites an imaginary case as follows:

A prick on the patient's little finger was followed by swelling and pain fixation of the flexor followed. The finger is incised on its palmar surface the tendon sheath found involved is opened and pus escapes. The next day fever persists, the tumefaction has spread to the entire palm the hand assumes the characteristic fixed flexed position of fingers—palmar synovitis is present.

By careful manipulation and palpation an estimate of the degree of involvement is formed if pressure at the external border of the hypothenar eminence causes a wave to pass towards the digital plane an internal palmar incision in the axis of the little finger from the summit of the V of the hand to within 1 cm. of the root of the little finger is indicated. The muscle is drawn to the inner side and the tendon sheath opened. The dagger is in wound; the superficial palmar arch at the upper angle of the wound.

If similar signs of pus are present in the forearm an internal antibrachial incision is made parallel to the bone immediately outside the vessels upon the convexity of the flexor tendon the incision extends upwards 6 cm. from the inferior fold of the wrist. The middle compartment of the infected tendon sheath is opened with a blunt instrument after drawing the flexor tendons outward and exposing the sheath deep under them and towards the carpal canal. The infection may be limited to these regions however if it extends to the radial sheath, that region is opened in a similar manner by making an incision parallel and internal to the radial vessels, dividing the vessels the retrotendinous cul de sac is located and opened. The external palmar incision is begun 1 cm. outside the summit of the V and runs to the root of the thumb. The

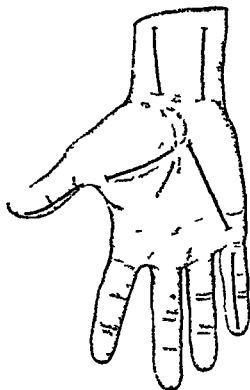


Fig 2 (Picquet) Incision to open a suppurative palmar synovitis.

short flexor of the thumb is cut through in order to reach the synovial sheath. The thenar branches of the median nerve are spared unless the incision attacks the annular ligament.

After thus thoroughly opening the sheaths, suitable drainage must be provided for. The author condemns pulling drains under the annular ligament. Usually the incisions described suffice but if the infection diffuses toward the cellular space in the forearm or toward the wrist joint, section of the annular ligament should be done at once because the carpal canal is a most dangerous place for pus to stagnate on account of its direct relation to the wrist joint and its indirect relation to the forearm below the pronator quadratus. The functional result following division of the annular ligament is good.

If the infection still spreads up the forearm the two lateral incisions are extended upward as far as necessary and transverse subtendinous drainage provided for.

If there is a suppurative arthritis of the wrist joint, one or two supplementary dorsal incisions are made after the technique of D'Ollier or Kocher and the joint drained by drains.

The author closes his article with a brief review

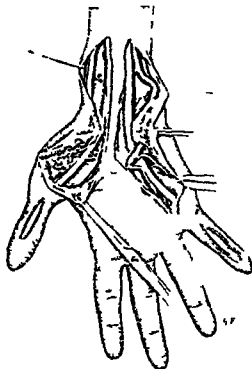


Fig 3 (Picquet) Complete opening by section of the annular ligament.

of a typical case occurring in his practice and a discussion of the advantages of his technique over that of Lecene.

ELLIS FISCHER.

Oberst A. Focal Tuberculosis of the Bones of the Extremities with Special Reference to Its Metaphyseal Location (Die herdförmige Tuberkulose der grossen Extremitätenknochen mit besonderer Berücksichtigung der metaphysären Lokalisation). *Deutsch. Zisch f. Chir.* 93, 43. By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

In the treatment of bone and joint tuberculosis the former customary extensive operations have lost ground in favor of more conservative methods and at present heliotherapy is receiving a great deal of attention. A close examination of bone and joint tuberculosis shows that the disease generally originates in the metaphysis which accords with the fascicular arrangement of the blood vessels in this region of the bone. Modern roentgen diagnosis makes it possible to find this focus early before there has been any great dissemination of the tuberculosis. It can be distinguished from a focus due to chronic osteomyelitis. In such cases there should be no hesitation in removing the diseased focus at once in order to prevent its extending and particularly its breaking through into the neighboring joint — heliotherapy will hasten the ultimate recovery.

In disease of the hip joint the infection generally comes from a focus in the metaphysis of the femur more rarely from one in the epiphysis or in the upper articular surface. In the knee joint foci in the metaphyses of the tibia and femur are most frequent while the ankle joint may become diseased from a focus in the metaphysis of the tibia or fibula. In calcaneus, there may be foci in the body the tuber osity or the anterior process. In the shoulder joint primary foci in the metaphysis of the humerus are less frequent than primary synovial tuberculosis. The elbow joint is frequently infected from the metaphysis of the humerus or ulna, and in these cases it may be observed that as age increases the primary focus has a tendency to approach the joint and the olecranon. As the humerus and ulna are both supplied by the deep humeral artery there are generally two primary foci in these two locations. In the wrist joint tuberculosis generally begins in the metaphysis of the radius.

J. J. J. J.

Hammond Heliotherapy of Rollier as an Adjunct in the Treatment of Bone Disease *Am J Orth S* 1913 21, 269 By Surg Gynec & Obst

The method of Rollier in Switzerland is the exposure to the direct rays of the sun not only of the bone sinuses especially tubercular ones but the entire body of the patient. He begins by short exposures to accustom the skin to the heat rays and gradually increases the exposure to seven hours a day. It is contended that high altitude 1200 to 1500 meters is necessary for good results. Out of 150 closed cases of surgical tuberculosis 393 were cured 41 improved 11 remained stationary 5 died. Of 200 open cases 137 were cured 29 improved 14 remained stationary 20 died. The author treated 60 cases at a sea level hospital in Rhode Island by heliotherapy and noted decidedly better results over the previous year as shown by average weight haemoglobin percentages and intangible clinical signs.

W. A. CLARK

Segale G. The Regeneration of the Synovial Membrane and the Joint Capsule (Über die Regeneration der Synovialmembran und der Gelenkkapsel) *Beitr Kl Chir* 1913 LVIII, 59 By Zentralbl f d ges Chir u Grenzgeb

Segale points out that the synovial membrane has no endothelium and has a peculiar place among connective tissue formations. His experiments in regard to the regeneration of synovial membrane and joint capsule show that an injury of the capsule heals and cicatrizes from the pericapsular connective tissue while wounds of the synovial membrane heal by regeneration from the edge of the wound. The regenerative process closes on the fifteenth day because then the synovial shows a marked differentiation into an internal and a fibrillar layer. In the reparative process the tissue of the capsule in contrast to that of the synovial is entirely passive. The blood which is poured into the joint cavity in injuries is quickly absorbed.

Garcia

Bullley K: Pneumococcal Arthritis *Ann Surg Phila* 1914 LX 71 By Surg Gynec & Obst

An extensive report is given of 172 cases collected from the literature to which the author has added one case coming under his own observation.

The average frequency of pneumococcal arthritis is one in eight hundred cases of pneumonia. It is more common in infancy than in any other period of life. Males are more frequently affected than females. An attenuated virus or partial immunity of the host favors the occurrence of an arthritis. Trauma and previous joint disease play an important rôle in the causation. Seventy per cent of all cases are associated with pneumonia, about 93 per cent following and 7 per cent preceding the lung lesion. The most common date of occurrence being within the first two weeks from the onset of the pneumonia.

The portal of entry of the pneumococcal infection is usually from the mucous membranes of the structures connected with the mouth, nose or pharynx. The path of infection is usually the blood stream.

Seventy five per cent of the cases analyzed were monoarticular, twenty five per cent polyarticular. The large joints, a the knee and shoulder were more frequently affected than the smaller ones, the lower extremity more frequently involved than the upper. In none of the cases analyzed was there an infection of the acromioclavicular joint or the vertebral column.

The exudate varies in character from a serous to a serofibrinous or serosanguinous fluid to the more commonly found thick creamy greenish pus. A large majority of pneumococcal joints are suppurative in character. The primary focus in the joint may be either in the synovial membrane or in the end of one of the bones comprising the joint. The symptoms differ but little from those of any other septic arthritis. Severe toxæmia usually accompanies the process but it may be of such low grade in character as to closely resemble a tuberculous or gonorrheal joint. In 45 per cent of the cases complications other than pneumonia were present, the most common being endocarditis, pleurisy and empyema, meningitis, pericarditis, and septicæmia.

The diagnosis can only be substantiated by an exploratory aspiration and bacteriological examination by smears, cultures and animal inoculation. A pneumococcal arthritis must be differentiated from other acute suppurative joint conditions, tuberculous arthritis, gonorrheal arthritis, syphilitic arthritis and acute rheumatic arthritis.

The prognosis is better in the young than in the older patient but the outlook is always grave. In this series there was a mortality of 21 per cent in the monoarthritic cases and 77 per cent in polyarthritic and a average mortality rate of about 50 per cent. The prognosis as to joint function is usually good. The treatment should never be radical consisting of a purulent arthrotomy, resection or amputation as the condition may require exploration with sufficient non-suppurative

cases only except as a diagnostic procedure autogenous vaccines and immune sera may also be of service
R B CORLE

Rosenau E C: Relation of and the Lesions Produced by the Various Forms of Streptococci with Special Reference to Arthritis. *III* 1915
J M 9 4 xvi 1 By Surg Gynec & Obst

The author discusses the transmutation of pneumococci and streptococci with the various lesions produced by them and intermediate forms. Streptococcus viridans which he has converted into a pneumococcus by animal passage is considered as intermediate between streptococcus haemolyticus and the pneumococcus. Likewise if it is possible for bacteriologists to distinguish pneumococcus from streptococcus the former has also been transformed into the latter and the bacteria so produced have all the characteristics recognized as belonging to them.

A haemolytic streptococcus isolated from the tonsils of a scarlet fever case was made to produce arthritis repeatedly with bacteria found in the small blood-vessels around the joint then exostoses atrophy and necrosis of cartilage. From these streptococcus viridans was produced which had no affinity for joints but did produce a typical endocarditis with hemorrhages into the valves. The same organism was further changed into a pneumococcus, producing neither of the above lesions but a rapidly fatal pneumococemia.

From fourteen out of sixteen cases of acute rheumatic fever organisms closely resembling those described by Payne and Poynter were isolated from the joints in four of seven from the blood and in two cases from the stools. Injection into animals produced fever arthritis and endocarditis repeatedly. At a certain stage of virulence there is a marked affinity for the muscles with a resulting myositis of varying grades further passage causes complete loss of this characteristic. One type resembling micrococcus haematiscus caused only a simple endocarditis and arthritis. The three types from rheumatism have been converted one into the other.

One strain of pneumococcus which had been isolated eight years previously by Neufeld had been kept virulent and described by Cole as one having fixed properties was converted into a streptococcus which instead of producing death by pneumococemia produced arthritis and in one case polyarthritis. He now streptococci having a marked affinity for tomach mucosa producing gastric and duodenal ulcers in rabbits, dogs and monkeys the ulcers being found in the lesions as early as twenty-four hours and as late as one month after intravenous injection. From slow indurated gastric and duodenal ulcers but few organisms were obtained principally staphylococci. In two streptococci were found one strain of which showed marked affinity for stomach mucous membrane of dogs and rabbits.
C A STONE

Billings, F: Clinical Aspect and Medical Management of Arthritis Deformans. *III* 1915
914 xvi 14 By Surg Gynec & Obst

Billings considers arthritis deformans or rheumatoid arthritis to be primarily of infectious origin and as shown by Rosenau Payne and Poynter is usually due to some form of streptococcus. Since the different forms of streptococci are produced possibly by conditions in the tissues it is rational to believe that in different people different strains may be grown which cause either endocarditis acute arthritis chronic arthritis etc. as the case may be.

There is much confusion in anatomical classification. Various anatomical changes may be found in the same case most likely due to the three different sources of the blood supplies of the joint structures hence the varieties of pathology in chronic joint disease. He believes the muscular atrophy and contracture is due to a chronic myositis instead of from nervous influence or as a secondary thing. Sometimes muscles are affected without involvement of the joints as in the biceps or erector spinae. Histological examination of these muscles shows chronic myositis. Cultures sometimes yield coccal forms of organisms. The secondary cause of the trouble is probably faulty metabolism manifested by general debility etc. with a protracted illness possibly due to mismanagement in treatment and too much medication. There are however some changes which are not understood where a number of bones have become fused into one mass.

For the above reasons the author thinks arthritis deformans a clinical entity which is caused by a chronic focal infection generally in the nose throat or mouth rarely elsewhere. The streptococci found are rarely of mutation. This clinical entity may be differentiated from other chronic arthritides by thorough examinations.

The first examination of the patient probably shows arthritis deformans instead of some other chronic joint trouble. This settled the next step is to discover the source if possible and remove it. If there have been frequent attacks of tonsillitis and the tonsils look abnormal Billings advises their removal even if no other focus is found he thinks it is well to remove them anyway. The tissue should be used to make cultures and to obtain autogenous vaccines which are used to give the patient injections. He thinks both vaccines and phylacogen are useless. Vaccines should be considered the least important part of the treatment. After removal of the apparent cause an effort should be made to improve the personal hygiene general nutrition nervous balance variety of food sunshine etc. then passive and later active motion. Deformities should be corrected by operation if necessary. An attempt was made by the author to use a prepared horse serum but in a few cases anaphylaxis became so alarming that further attempts were given up. Even in those cases where a cure is not possible the writer thinks the course

of the disease can be checked. The most difficult thing to be overcome is the chronic muscular change even here however autogenous vaccines obtained from local cultures promise better results. The case demands long and careful watching.

C. A. STONE

Gillette A. J.: The Importance of Orthopedic Treatment in Tuberculous Joints, Based Upon Twenty Five Years Experience in Four Thousand and Ten Cases. *J. Am. J. Surg.* 1914, xxiv, 4.

By S. R. Gynec. & Obst.

Gillette reviews his experience in the treatment of 4010 cases of joint tuberculosis and states that tuberculin has been of little or no value in the diagnosis or treatment of these cases and that the X-ray also had been of little value. In some cases where the X-ray indicated apparently only a small focus of infection it was found on operation that the disease was much more extensive and not amenable to operative treatment. In fact operation except the occasional aspiration of abscesses is very seldom advisable in the treatment of any of these cases. In a series of cases which could be carefully analyzed the author reports 80 per cent of cures. By cure is meant there was no evidence of any active disease, no apparent deformity, a good functional limb. Many of the remaining 20 per cent died of some other disease than tuberculosis. The author states that he has never seen a bony ankylosis in an uncomplicated tuberculous joint.

C. OWEN J. BARNES

H. H. The Treatment of Tuberculosis of the Knee-Joint; and Its Results (Über die Behandlung der Tuberkulose des Kniegelenks und ihre Ergebnisse). *B. v. Ch.* 1913, lxx, 1, 31.

By Zentralbl. f. d. ges. Ch. L. GROSSGEB

H. reports 454 cases of tuberculosis of the knee treated clinically by Garré in Breslau and Bonn with special reference to the comparative results from operative and conservative treatment over two fifths of the cases occurred during the first ten years of life. In sixty-six cases there was hereditary infection while 40.4 per cent were of synovial origin. The treatment was not routine but was individualized taking into account the age and local position of the patient as well as the objective findings. Operation was performed only where there were foci in the bone that could be seen in the roentgen picture where the process was advanced and complicated by abscesses and fistulae or had led to severe contractures and subluxations in all other cases conservative treatment was attempted rest injection of iodine glycine and heliotherapy. Bier's hyperemia is no longer used and good results were obtained from roentgen treatment in only a few cases.

Of the 33 cases treated conservatively after subtracting those still under treatment and those who had been dismissed less than a year reports were obtained from 86.51 per cent of whom showed

good results 45.3 per cent bad and there were 16 deaths. Of 317 cases operated upon arthrectomy was performed in 13 cases. Of the four reported 2 had moderately good results, one was resected later and one died later. Amputation was performed in 32 cases 17 of which were reported ten of them are well with stumps capable of bearing their weight four still have fistulae and pain and three died of military pulmonary and kidney tuberculosis.

Resection was performed in 268 cases 114 of whom were under 15 years of age. The immediate results showed 87.73 per cent recoveries 4.59 per cent improvements 0.74 per cent not cured (recurrence) 5.73 per cent amputated afterwards 2.24 per cent deaths—that is 93.3 per cent good and 6.7 per cent bad results. 1 month results over a year after the operation were reported in 183 cases 14 of whom died. If we subtract from the remaining cases which showed a shortening of 0.5 cm there are still 83.6 per cent of excellent results (leaving 75 per cent). Even in children with severe changes in the bones abscesses, fistulae and poor general condition conservative resection is indicated.

Syring Treatment of Tuberculosis of the Joints of the Foot and Its Results (Über die Behandlung der Tuberkulose des Fussgelenks und ihre Ergebnisse). *B. v. Ch.* 1913, lxx, 1, 88.

By Zentralbl. f. d. ges. Ch. u. L. GROSSGEB

The author's work is a supplement to Garré's report at the 1913 Congress and gives a statistical account of Garré's material at Homburg, Breslau and Bonn in the special field of tuberculosis of the foot. His special object is to show the results of treatment. Of the 222 cases 65 per cent occurred in the first two decades of life one fifth showed hereditary infection and 46 per cent had other tubercular affections. The proportion of osseous to synovial tuberculosis was about two to one. The chances of recovery grew slighter as the number of joints involved increased with the formation of peritubercular abscesses and fistulae which were observed 93 times with disease of the tendo achillis which occurred in 76 cases.

Children showed a tendency to contractures which led to club foot while adults showed more of a tendency to flat foot which caused mistaken diagnoses in 10 per cent of the cases. Mistaken diagnoses may be avoided by repeated roentgen examinations.

Conservative treatment repeated injections of iodine glycine and plaster casts in conjunction with general treatment, brine baths and soft soap emulsion and held the apex where possible had to be given up in 4 cases but where it was carried out it gave good results: 75 per cent of the cases.

The humeral cases important and only those should be selected in which one or at most two joints are involved and where chiefly the capsule is affected, without large foci in the bone. The ma-

jointy of the cases of foot tuberculosis that came to the clinic were not suited for conservative treatment. Excochleation and wedge resection were indicated in only a few of the cases. Therefore the typical resection was preferred and was made use of in 45 per cent of all the cases treated, and in 53 per cent of the operative cases.

In tuberculosis of the anterior part of the foot even when only one bone the cuboid was involved transverse resection was performed with König's bilateral incision which leaves the least deformity and offers the best chances of removing the diseased focus without opening it. The tendons do not need to be shortened for they adapt themselves to the altered condition. In the treatment of the upper ankle joint arthrectomy was never performed but the cartilage was always removed, frequently with a part of the bone.

Recently Garré has preferred almost exclusively the total removal of the astragalus with superficial resection of the os calcis with König and Bruns incision. The removal of the astragalus is the only procedure that gives a sufficient view of the field and it does not give any worse functional results than wedge shaped resection moreover in one-third of the cases the articulation between the astragalus and tibia was also involved. The shortening caused by the removal of the astragalus is compensated for during the years of growth by placing the os calcis in an oblique position which the author explains as being analogous to Nikolaï's treatment of flat foot by increasing the function of the muscles of the sole which is accomplished by bringing the points of insertion nearer and by atrophy of the antagonistic peroneal muscles.

In adults, the os calcis is left in position and it almost always results in flat foot. In a few cases on later examination a functioning new joint was found but generally a firm ankylosis is the best that can be done as walking is made easier by increased mobility of Chopart's and Lisfranc's joint. Slight mobility generally causes pain from deformity. Of 75 cases of resection of the articulation between the astragalus and the tibia examined later 40 showed good results and some showed remarkable functional capacity. In the first two decades of life the proportion of successful to unsuccessful cases is 75 to 25 in adult life it is 53 to 47. Foot tuberculosis in youth is the chief field for resection. Amputation had to be performed in 45 cases 30 of which were soon able to return to their work. **SIRZEVS**

Robinson W. Torn Semilunar Cartilages. *B. J. M. J.* 94:1:33. By Surg. Gynec. & Obst.

There can be a tear without displacement according to the author but no displacement without a tear and he thinks that the term torn should displace dislocation. In speaking of this condition the frequency of which he accounts for on anatomical ground. The outer convex border of the internal semilunar cartilage is attached to the capsule of the joint rather firmly in the posterior

half but loosely in the anterior half. The quadriceps extensor tendons slip down on each side of the patella to be inserted into the capsule of the joint. When a strong contraction of the quadriceps occurs it pulls on these lateral slips of insertion and in doing so tends to pull the anterior half of the internal semilunar cartilage out in such a position that it can be caught between the condyle of the femur and the head of the tibia.

When the knee is bent and the leg rotated outward or the thigh inwards the capsule being loose the anterior half of the cartilage is obliquely stretched across the articular surfaces immediately in front of those parts of the internal condyle and the head of the tibia which are in close contact. Should a sudden extension occur the cartilage is nipped and as extension continues the capsule is forcibly pulled outward by the contraction of the quadriceps and as the cartilage cannot follow a rent in its substance occurs. As a general rule the author says that if the femur has been rotated inwards or the leg outwards the inner meniscus will almost always be found torn. If the rotation of the femur is outwards, or the leg inwards one cannot be so certain that it will be the outer meniscus which will be found ruptured.

The treatment he says is operation. One point in the technique is that the sutures in the capsule are made interrupted wide apart to allow of the escape of synovial fluid and so prevent subsequent distention of the joint — no splint is used. He reports 24 cases 22 internal semilunar and 2 external cartilages. **M. S. HENDERSON**

FRACTURES AND DISLOCATIONS

Peckham. Mechanical Treatment of Some Fractures. *Am. J. Orth. S.* 9:3:50.

By Surg. Gynec. & Obst.

There is now beginning a reaction against the open treatment of fractures which is the outgrowth of many cases of sepsis and some fatalities in plating. Future treatment will be along purely mechanical lines and mechanical ingenuity will be more freely displayed by surgeons.

The author reports ten cases of fracture of the lower end of the humerus and of both bones of the leg all but one of which were treated without operation. For convenience in applying casts on the leg he uses a small Bradford frame with a window by means of which extension is obtained. The roentgen ray should be freely used in case of fracture not only for diagnostic purposes but after reduction to insure proper results. A portable apparatus with storage battery is recommended for cases which for any reason cannot be removed to a roentgen laboratory. **W. A. CLARK**

Magruder E. P. The Treatment of Fractures. *Am. J. S.* 9:4:111. By Surg. Gynec. & Obst.

Under the above title Magruder gives the conclusions which he has reached as a result of a large

experience in the treatment of fractures by both methods of treatment. At the outset he states that in his opinion the closed fracture in cases in which it can be properly kept as such always unites more quickly than the closed fracture healed by the open method. He cites operative trauma and the application of a foreign body as the chief factors in the production of delayed union. Contrary to the experience of Lane he holds that steel plates actually retard consolidation even in cases where there has not been the slightest evidence of infection of the soft parts. Bony union following fracture of the femur will be as far advanced in six or seven weeks in the absence of foreign bodies, as it would have been in ten weeks had steel plate been used according to our author who observes:

1 The ideal treatment of fractures is the closed method when by it reduction can be maintained.

2 Next is the open method of reduction without the introduction of a foreign body when by this method reduction can be maintained.

3 Open method with the use of the least possible amount of foreign material.

Indications for operation in a closed fracture are (1) When complete reduction is impossible (2) interposed soft parts (3) spinal fractures with separation (4) when apposition cannot be maintained (5) multiple fractures (6) rotation of fragments (7) injury to blood vessels and nerves and (8) marked deformity.

The advantages of the open method are: (1) Better union (2) relief from pressure on nerves (3) anatomical reduction (4) removal of interposed soft parts and (5) less danger of ankylosis in articular fractures.

Magruder advises the earliest possible operation with a thorough washing away of blood clots. He recommends the following treatment of compound fractures:

1 If there is extensive comminution of the bone and irreparable damage to blood vessels and nerves, immediate amputation is advised.

When amputation is not indicated after the wound is disinfected, the fragments should be replaced and the wound healed as a closed fracture. 2 A tetanic serum should be given if indicated.

The author advocates the use of a tinned steel annealed wire as the most trustworthy suture material and further he condemns the use of plates and clamps because they are cumbersome of unnecessary size and weight. *Isidor Conr.*

Lasowakaja S. The Treatment of Ununited Fractures and Pseudarthroses with Injections of Periostrum Emulsion. (*Zur Behandlung nicht konsolidierter Frakturen und Pseudarthrosen mit Injektionen von Periostrum Emulsion*) *Chir. arch. intern. nova* 9, 3, 1920.

By Zentralbl. d. ges. Ch. 1 Grenzgeb.

After describing the animal experiments performed by Nakatar Dilgen, and Sasaki the author reports 5 cases of uncomplicated fractures of the fe-

mur 1 fracture of the leg 2 pseudarthroses of the knee joint after resection. Flaps of periosteum were taken from the anterior surface of the tibia and cut up into bits 1 to 1½ mm in size which were washed in physiological salt solution and injected between the ends of the bone afterward the skin was sutured and a plaster cast applied. The author always incises the skin to avoid carrying in skin bacteria. In four cases consolidation followed after several months. In one case of pseudarthrosis of the knee joint ossification did not take place as the patient was very cachectic from tuberculous. Microscopically during the second operation, suture of the pseudarthrosis foci of necrotic and granulation tissue could be seen and also cartilage in the process of formation. *Ilisuz.*

Colvin, A. R. Fractures of the Tibia and Fibula at the Ankle-Joint. *Surg. Gynec. & Obst.* 1914, 18, 11, 99. By S. 12, Gynec. & Obst.

Lesions occurring at the lower ends of the tibia and fibula are very varied in character requiring the radiograph usually for differentiation and a guide to treatment. Pott's original description of the fracture which bears his name was that of a fracture of the fibula above the inferior tibiofibular joint and a rupture of the internal lateral ligament.

The author's observation and perusal of illustrated literature of this subject convinced him that Pott's fracture in the strict sense, is a rare injury. In a series of sixty cases Pott's fracture occurred but once the remaining fifty-nine being made up of eight different lesions—bimalleolar fractures being the most frequent. Various lesions here are produced by predominating evertor or invertor forces. These forces used as corrective measures in either direction may result in a deformity opposite to the one caused by the original injury. Adduction or inversion of the foot is not necessary as a retention dressing except in Pott's fracture and if used in bimalleolar fracture is very liable to result in deformity.

Pott's fracture must be put up in inversion, to approximate the torn structures at the inner side of the foot during healing.

Young, Recurrent Anterior Dislocation of the Shoulder. *Am. J. Orth. Surg.* 9, 3, 21, 43. By Surg. Gynec. & Obst.

Some of the causes of recurrent anterior dislocation of the shoulder are: (1) a large laceration of the capsule on the anterior side (2) a lax condition of the capsular proper (3) fracture of the inner edge of the glenoid cavity (4) atrophy of the musculature on the affected side and (5) rupture of the outward rotators of the humerus. The first recurrence may be weeks or months after the primary dislocation and may result from a light exertion as merely turning over in bed. Operation of overlapping the capsule or of excision of part of it and suture of the edges is suggested to prevent recurrences.

The author prefers to divide the lower portions of the insertions of the pectoralis major and of the latissimus dorsi muscle, put the arm in extension for two weeks and thus produce a lengthening of these tendons so that the muscles cannot through contraction of their lower portions produce the dislocation. In muscular persons it is difficult to divide both tendons through one incision. The incision is made over the space between the deltoid and pectoralis major, exposing the bicipital groove, the cephalic vein is displaced outward, the tendons picked up on a hook and the lower portions divided.

W A CLA K

Thomas T T Habitual or Recurrent Dislocation of the Shoulder Eighteen Shoulders Operated on in Sixteen Patients a New Auxiliary Operation S & Gynec & Obst 1914 x iii 107 By Srg Gynec & Obst

The reported results of capsulorrhaphy are almost uniformly favorable. In 12 of the 18 shoulders operated on an incision anterior to the axillary vessels was employed in there was a posterior auxiliary incision one having been operated on by both methods. The anterior auxiliary operation is preferred to those previously employed but the posterior auxiliary operation to the anterior because it is safer, more easily and quickly performed, no muscles are divided, and in 3 of the last 4 cases no ligatures were employed. The patients usually left the hospital in a week and several returned to work in three weeks or less.

In 5 of the 18 cases dislocation occurred after operation in 1 after two operations. This case was probably incurable by capsulorrhaphy because of a large defect in the humeral head and because the patient had powerful epileptic convulsions. In another epileptic the anterior half of the glenoid cavity had been worn away but permission had not been obtained to do more than a capsulorrhaphy.

In a second operation the glenoid cavity was reshaped and the capsule contracted (Hildebrand) and no further dislocations have occurred after two and one half years. The first operation was known at the time to be inefficient. In the third of these 5 cases during heavy weight wrestling which had been indulged in for two years an opponent fell on the arm of the side operated on while it was in abduction and dislocated the shoulder three years after operation. He had had no further dislocations a year later.

In the fourth case in the first nine months after operation — 4 years ago — there occurred from severe violence on two occasions a subluxation with immediate spontaneous reduction. The patient has used the arm vigorously since in swimming, tennis and baseball playing but has had no further dislocation.

In the fifth case a complete dislocation occurred from severe violence seven months after operation but in six months vigorous use of the arm since he has had no further dislocations.

All the patients have been advised to use the arm after operation as freely as the other. Of the 13 cases in which no dislocation has occurred since operation, some are athletes and 3 are epileptics, one of the latter having had more than 65 convulsions since the operation.

A dislocation after operation necessitates a new laceration of the capsule, the cicatricial contraction of which prevents a second recurrence after operation in most cases. In one case there was no dislocation but a year and a half after operation — more than four years ago — when there was nearly full motion and power of the arm, there occurred a tear fracture of the glenoid margin from vigorous boxing, a sinus developed and finally the head of the humerus was excised, which was the operation of choice before capsulorrhaphy.

Of the 18 operations, therefore, it may be said that 16 were successful, 1 partially successful and 1 a failure, but even in the latter case the patient is no worse than he would have been without the operation.

Sherman H M Congenital Dislocation of the Hip a Rational Method of Treatment S & Gynec & Obst 9 4 x 1, 6 By Surg Gynec & Obst

The author describes briefly the common major deformities of the joint components found in the deformity complex of congenital dislocation. These are incompetencies in all the anatomical parts which interfere with or wholly prevent the fitting of the bones to each other after a reposition. Among these are antetorsion of the upper end of the femur, emphasized by which is meant a twisting forward of the neck and head and backward of the trochanter so that when the toes point forward the neck and head also point forward. This antetorsion can be recognized by taking two radiograms, one with the toes pointing forward when the head and neck show foreshortened and the other with the leg rotated in, so that the toes point to the opposite foot when the head and neck show in profile and their ability to enter and remain in proper relation to the acetabulum can be estimated. The persistence of this antetorsion untreated is the greatest cause of relaxation. It pointed out that the capsule adds its constriction at the upper part of the acetabulum is the major obstacle to reposition and that this obstruction always present except in a very small number of the cases.

The method of treatment contemplates a reduction of the dislocation by an incision in this incision lies between the long head of the rectus femoris and the tensor vagina femoris and so avoids cutting any cutaneous or muscular nerves. It enters the capsule just beneath these muscles and the gloved finger can then enter the capsule also. By flexing the joint the capsule is relaxed and the finger can direct a long straight probe point of knife to and through the constriction. The capsule must be cut in a direction downwards enough to open a space through

which the femoral head can pass. Reduction is then usually easy.

The limb must then be extended and abducted at the hip and also rotated in especially if the ante-torsion is present.

In closing the wound, the capsule is not sutured. The child is put in a double plaster of Paris spica and kept there for from four to six weeks. At the end of that time the splint is removed and if there is an ante-torsion of the shaft a nail is driven into the trochanter and then subcutaneous osteotomy is done below the nail in the upper part of the shaft. With the nail the smaller fragment is held in proper correlation to the acetabulum and the larger fragment is rotated out so that the toes again point forward. The patient is once more put into a plaster of Paris spica the nail remains in place from four to six weeks and is then removed. The long spica is replaced by a shorter one walking beginning about three months after the osteotomy with the leg still in the splint.

With this technique of reduction through an incision which really reduces and osteotomy when it is necessary to fit the component parts of the joint to each other the patients have a full 100 per cent of their chances for a practical joint. It is not possible to recreate bony deficiencies nor to perfectly fit together wholly mismatched parts but with a practical acetabulum and a practical head and neck the method should give a practically normal joint. A joint is a mechanical contrivance and the test of its mechanical competence is its functional competence. A joint which has a functional competence equal to that of a normal joint is itself a normal joint. In many instances the radiogram may show variations in shape, size and other details from the generally accepted form but if the function is equal to that of a normal joint it is claimed that it is a normal joint. This treatment has given 70.3 per cent of functionally normal joints.

SURGERY OF THE BONES, JOINTS, ETC.

Van Duyn E. S. Deductions from Our Experience at the Hospital of the Good Shepherd in the Open Treatment of Fractures. *Am J S* 1914 xx iv 11. By Surg. Gynec. & Obst.

The author believes that asepsis is the keynote to success and he emphasizes particularly the necessity of trained assistants. Attention is directed to the great importance of interposed soft parts as a cause of inability to reduce fracture displacements by the closed method. Plates have been discarded by the author because in his experience 75 per cent have subsequently had to be removed.

The author summarizes as follows: We hold that the open treatment of fractures is more scientific and gives better results than the older method in those cases where complete reduction cannot be immediately accomplished and maintained that the dangers of the open method of treatment be

only in faulty technique that excepting where it is necessary to bridge a gap, foreign material other than sutures should not be introduced that when such foreign material is necessary bone from the patient himself is the best that all cases should be examined at regular intervals with the X ray to determine the amount and extent of callus formation and when failure in such formation is manifest in spite of early manipulations strain pressure, and massage known therapeutic and mechanical means to induce local hyperemia and promote bony deposits, should be employed. *Ismore Conn*

Moorhead J. J.: Transfixion Treatment of the Shaft of the Femur. Dislocation of the Elbow with Compound Fracture of the Forearm. *Med Fort* July 1914 xiv 33. By Surg. Gynec. & Obst.

A case of femoral neck fracture in a woman of 63 was treated by Whitman's abduction plaster spica method with a shortening of one inch a slight limp and free motion in joint as the result. The author also reports seven cases of femoral shaft fractures which were treated by putting through the femur just above the condyles, a steel drill long enough to protrude on each side of the thigh.

The method of procedure consisted of Ansa's one-half inch incision a hole drilled by a Yankee drill a steel drill thrust through to the skin on the opposite side then pushed through the skin and a cord attached to each end from which is obtained the hold for traction which is applied in much the same manner as ordinarily. The patient is put to bed on an inclined plane and a weight of eight pounds is attached the weight being increased gradually up to fifteen pounds.

The author claims that with this method there is much less danger of infection than in plating, and it takes few instruments thus permitting performance in the home. He admits that there is less control of lateral deformity but thinks this is more than compensated for in the less frequent shortening from overlapping. The weight is kept on for eight weeks. The steel drill will then be loose and can be withdrawn easily. The case of elbow dislocation was reduced under anæsthetic but on attempting replacement of the accompanying forearm fracture he met with failure. On the eighth day the radius was plated and by a small incision over the ulna it was easily sprung into place. *C. A. Stone*

Spiegel N. Accidents in Nail Extension (Zufälle bei Nagelextension). *Dissemination Berlin* 1913. By Zentralbl. f. d. ges. Chir. Grenzgeb.

The author discusses with interesting statistics the following subjects: The extension method Bardenheuer's adhesion plaster extension nail extension, over correction pain and numbness, swelling of the joints genu valgum, ankylosis breaking off of the nail loosening of the nail cutting through of the bone incorrect application of the nail necrosis of the skin and bedsores, danger

of infection long duration of nail extension formation of fistula too long time required for recovery rises of temperature. He discusses 18 of 20 cases, in which Steinmann's method of nail extension was used. Of the 18 cases 14 were fractures of the lower extremity in 4 there was congenital dislocation of the hip 11 of them were male 7 female the ages ranged from 9 to 63 years.

In one case a man of 45 years which is described in detail the nail extension treatment of a fracture of the upper femur resulted in several accidents. Diastasis severe pain later dislocation genu valgum position breaking off of the nail. Because of the possibility of over correction the nail extension treatment needs to be very carefully watched which is only possible in hospitals. The practitioner may meet with many unpleasant surprises on this account such as displacement of the fragments, edema disturbances of the circulation and atrophy. The patients react very differently as regards pain however very severe pain is unusual swelling of the joint during and after nail extension is not unusual. From the fact that knock knee resulted in 2 cases the conclusion is reached that the traction in many cases may have a harmful effect on the ligaments of the joints.

Ankylosis also occurs rather frequently. In the author's cases this lasted a considerable time and was apparent on the later examinations. In a considerable number of fractures of the lower extremity movements of the joints especially the knee joint cannot be carried out during traction or if so only with the greatest difficulty. In four of the author's cases there was stiffness of the joints. Steinmann's treatment is not superior to adhesive plaster extension on this point in the former ankylosis takes place in the extended position in the latter in the flexed position. But it must be acknowledged that the ankylosis following nail extension are more amenable to mechanotherapy than those following adhesive plaster extension.

There is frequently ankylosis of the foot joint also for in fractures of the lower femur the calcaneus is generally used as the point of insertion for the nail. The author has had the nail break off three times and in a fourth case it could be seen from the roentgen picture that if traction had been continued any longer it would have broken off.

Among some of the most important disadvantages of the various forms of apparatus the author mentions loosening and turning of the nail, cutting of the bone by the nail displacement breaking of the nail bedsores and necrosis. There is no doubt that the nail fistulae observed so frequently in nail extension—5 times in 8 cases—are due chiefly to the moving of the nail in its canal. The author has constructed an apparatus by means of which these technical difficulties and their clinical consequences are avoided. A further technical difficulty lies in the fact that the nail is sometimes not applied properly with the result that the bone may be cut by the nail, and other unpleasant results may

follow—pressure from the nail may injure the skin frequently resulting in necrosis. In the author's 18 cases there were 8 cases of bedsores. The ulcer offers great danger of infection the long duration of the traction is also a further disadvantage—in the author's cases the average was 19 days the time ranging from 8 to 31 days.

So far there is no known way of avoiding the danger of infection in nail extension. Fistulae are frequent occurring in 5 out of 18 cases. In a 9 year-old girl nail extension was undertaken for a viciously healed fracture of the upper femur—there was a fistula at the site of the nail for more than 2 years. The average duration of the hospital treatment was 77 days ranging from 23 to 146. Most of the cases were severe fractures. In 8 cases there was a rise in temperature. FARRIS LOAN.

Nové-Jossierand Rendu A. and Michel P.: Four Cases of Codivilla's Nail Extension in the Treatment of Fracture of the Femur in Children (De l'extension par le clou de Codivilla des fractures du fémur chez l'enfant quatre observations). *Rev d'orthop.* 1913 v. 487.

By J. umal de Chirurgie

The authors report very satisfactory functional results obtained by extension with Codivilla's nail in four cases of fracture of the femur with great displacement of the fragments. They admit that traction on the soft parts properly applied and carefully watched may perhaps give as good results but maintain that traction applied directly to the bone gives more exact results than that applied to the soft parts, because all the force used is applied directly to the reduction of the fracture. By this method much heavier weights can be used than in simple traction, and the authors have used 44 kg without any serious results though generally 7 to 8 kg is enough.

In two children aged 6 the nail cut the calcaneus but reduction of the fracture was secured. It seems to us however that it would be preferable to avoid injuring the bone by using lighter weights. The perforation of the bone by the nail does not have any immediate or remote harmful effects the method is simple and does not demand a great degree of attention.

The authors have modified Codivilla's procedure. They make use of his method of traction by a nail driven into the calcaneus. This allows continuous extension over a pulley of 8 kg of weight or more but they have provided for counterextension by a sort of plaster breeches making use of the pelvis and sound thigh as in an ambulatory apparatus for coxalgia. When the plaster is dry the child is put in a bed furnished with a rigid trough as for coxalgia. The thigh covered by the plaster is laid parallel to the edges of the trough so that the line of the iliac spines is perpendicular to the axis of the body then counterextension is made by fixing two straps to the waist of the cast and tying them to the head of the bed. In this way as the counterextension is made

INTERNATIONAL ABSTRACT OF SURGERY

5

rough the intermediary of the plaster apparatus, the force applied is distributed over all the points covered by the latter so that it is much more efficacious and much better supported.

The authors conclude that Codivilla's method, modified in this way is excellent for children and is not at all dangerous or serious. They emphasize the dangers for children and adolescents who have not yet finished their growth of Steinmann's method which drives the nail into the peripheral segment of the epiphysis. The articular cartilage is thus injured and irreparable injury may be done to the future growth of the bone. **Albert Mouton**

Brickner W M Metal Bone-Plating, a Factor in Non Union Autoplastic Bone-Grafting to Facilitate Osteogenesis in Non Union of Fractures
Am J S 94 By Surg Gynec & Obst

Brickner cites two cases of non union following the use of bone plates in fractures of the femur. He removed the plates and introduced an osteoplastic graft from the tibia over the site from which the plates had been removed. The graft was held in place by suturing over the peroneum and muscle. A firm union resulted in both cases. His conclusions are:

1. A metal plate screwed to a fractured bone can of itself cause delay of union and non union.
2. The use of metal plate and screws is not advised in any open operation in which a simple reduction or reduction of the application of an autoplasmic fresh bone splint is sufficient.
3. Neither a 3/8 metal plate nor an additional plate can be depended on to maintain the alignment of a fractured femur in a muscular thigh.
4. Study of the radiographs shows a gradual fusion of the bone graft with the femur and affords no indication of refraction or absorption of the graft itself.

Albee F H The Inlay Bone-Graft as a Treatment of Ununited Fractures Report of Fifteen Successful Cases
Am J S 94 By Surg Gynec & Obst

After a study of 205 bone transplants of varying character the author concludes that Lane plates and other internal metal splints when applied to ununited fractures of long standing are a hindrance rather than an advantage in securing bony union. Albee believes that the indications for treatment of fresh fractures and ununited fractures are entirely different. In fresh fractures temporary fixation only is necessary to insure union as the osteogenic function is active and occurs. The Lane plate apposition union fulfills all requirements in suitable cases of fractures where the indications are in ununited fractures there the indications are osteogenic activity. If the indications are fixation and stimulation of osteogenesis on the part of the fragments and a osteogenic scaffold. The bone graft fulfills these requirements and further

the bone graft not only stimulates callus but grows bone on its own account. The plate furnishes but one of these requirements namely fixation.

In two cases Albee applied the following technique with 100 per cent good results:

1. The fractured area is exposed.
2. The edges of the bone are freshened with chisel or saw.
3. The sclerosed plug is removed from the medullary canal.
4. If there is overriding traction — pulley and weights — is used.
5. The periosteum is divided over the bone to be removed in making the gutter for insert.
6. Two parallel saw cuts three eighths of an inch apart are made longitudinally of the fragment ends completely through the cortex. The cuts should be two and one half to three inches in length in each fragment and the saw should be constantly bathed in a saline solution.
7. Holes should be drilled in the cortex on either side of the gutter.
8. The opposite tibia is exposed as before bone.
9. With the twin saw adjusted as before bone cuts are made to the marrow along the anterior internal tibial aspect.
10. With a narrow osteotome or small motor saw the graft is dislodged.
11. Langens tendon is placed in the drill holes previously made. The graft is inserted under the tendon and the graft inserted under the tendon which is now pulled tight.

The bone graft being living tissue has certain germ resist properties consequently it immediately becomes adherent and fixed to the contacting tissues. It not only stimulates the bone with which it is contacted to increased osteogenesis but it proliferates bone on its own initiative.

Osgood A Method of Osteotomy of the Lower End of the Femur in Cases of Permanent Flexion of the Knee-Joint
Am J Orth Surg 93 x 336 By Surg Gynec & Obst

For old supracondylar fractures healed with the knee in permanent flexion the author has devised an osteotomy which permits complete extension of the knee. It consists of the removal of a wedge from the anterior aspect of the femur of such shape that a lip is left on the lower fragment which by locking on the upper fragment prevents backward displacement. He reports three cases so treated in which the results were excellent. **W. C. Lane**

McWilliams C A The Periosteum in Bone Transplantations Is Contrary to Laying Bone Necessary for the Life of Grafts, and Will Transplant Periosteum Produce New Bone?
J Am Med Ass 94 Jan, 1916 By Surg Gynec & Obst

The assertion made by Murphy that contact with living bone is absolutely necessary for the success of

bone grafts and that the periosteum is of secondary importance is challenged by the author and ten experiments on dogs are cited to substantiate his views. The periosteum is of importance as it affects the blood supply and not wholly because of its osteogenic function. Forty-eight per cent of the grafts without periosteum succeeded probably because the blood supply was sufficient to keep them alive. Good roentgenograms illustrate the report of his experiments, all of which tend to show that contact with living bone is unnecessary to the life of the graft; that grafts with periosteum practically always live; that grafts without periosteum are uncertain; that periosteum alone transplanted into soft tissue may produce new bone; and that blood supply is the essential factor in determining the fate of the grafts.

W. A. CLARK

Perlmoff W. A.: A Case of Fat Transplantation in a Bone Cavity (E. Fall on Fetttransplantation in die Knochenhöhle). *Med. Oberz.* 9 3 1 763
By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Fat transplantation was proposed by Neuber 20 years ago but was first successfully used by Chaput to fill a bone cavity in 1904 in Germany. Maklars reported the first three cases in 1911 in Russia. Hesse, Klopfer, and Lawrowa performed the first operations in 1912. The author reports a case of his own in which 17 days after the operation the skin wound had to be trimmed and advantage was taken of this opportunity to look at the transplanted fat. It did not seem to have changed and when removed the superficial layers did not bleed. Probably this indicates that the fat had lain in the bone cavity as a foreign body. The patient recovered completely.

STROMBERG

Rehn, E.: Replacement of Tendons (A. h. s. che Bei-
trag zur freien Sehnen ersatz g.). *A. h. f. kl.*
Ch. 913 cl. 5
By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Homoplastic transplantation of tendons has not yielded the clinical results that was expected from the experiments on animals. The transplants generally take and there is only transitory necrosis but the permanent results leave much to be desired; therefore the transplantation should be autoplasmic whenever possible. The material is obtained from the tendon of the palmaris longus splitting the extensor tendons or by taking broad bands from the Achilles and recti femoris tendons. The tendon must be transplanted into loose tissue well provided with blood which insures prompt nutrition. For this reason cutaneous scars must be extirpated and the loss replaced by skin flaps with pedicles. The subcutaneous tissue should be split into layers to receive the transplanted tendon.

The regulation of exercise is important for the ultimate result, for if it is undertaken too early adhesions may be formed with the surrounding tissues which will interfere with functional activity; the adhesion must then be loosened and recurrence

prevented by the interposition of fatty tissue. If the after treatment is too energetic stretching may occur at the point of union of the stump of the tendon and the transplant; this will have to be overcome by an operation to shorten the tendon again. Long continued after treatment and careful surveillance of the patient is indispensable. Ten illustrated case histories show the excellent results obtained by Rehn.

Three times defects in the extensor tendons of the fingers due to trauma were repaired four times on the flexors of the fingers and once on the tibialis anticus. Once the tendon of the extensor hallucis longus in a case of paralytic club foot was replaced by a tendon of the palmaris longus. The author has yet under treatment a case in which the tendon of the flexor profundus of the right index finger destroyed by a phlegmon of the tendon sheath was replaced by a piece, 8 cm. long from the tendon of the palmaris longus. In this case he had to shorten the tendon afterward as a result of stretching.

WORTHMAN

Norton W. A.: An Improved Method of Hemostasis in Shoulder and Hip-Joint Amputations. *S. g. Gyn. & Obst.* 1912 xvi 103
By S. g. Gyn. & Obst.

Norton describes a method for controlling hemorrhage in shoulder and hip joint amputation.

A four inch bandage and an Esmarch rubber tourniquet is all that is needed. The bandage made into a 3 or 4 ply strip is laid upon the chest extending over the shoulder and a similar strip is held over the scapula. The Esmarch is applied over these strips and pinned securely with safety pins. The strips are folded back and handed to a nurse or tied under the opposite arm.

For hip joint amputations an anterior strip is placed so that the outer border of bandage touches the anterior superior spine of ilium and the posterior strip is placed so that the inner border of bandage touches the tuberosity of the ischium. The Esmarch is then carefully applied over these strips and pinned securely to them. The bandage pulleys are folded upward and pull is exerted so as to keep the Esmarch snug in the crotch and in the groove below the anterior superior spine of ilium. The pulleys are now passed over the shoulder of the opposite side and handed to an assistant or tied securely.

The author advocates this method for amputation and for removal of neoplasms about the shoulder and hip and claims for it the following advantages:

- (1) Its simplicity (2) it does not impair already lacerated tissues as many of these cases are traumatic and the surgeon is often taxed to find tissue for a flap (3) perfect control over bleeding areas by pulling above or below as occasion demands (4) fresh fields are not opened up for infection as is necessarily the case when Wyeth's needles are introduced (5) the time of operation is shortened therefore the shock is diminished.

ORTHOPEDICS IN GENERAL

Cantas, M. Pathogenesis of Madelung's Deformity or Radius Curvus (Contribution à l'étude de la pathogénie de la déformation de Madelung on radius curvus). *Lys chir.* 1913 2 434
By Journal de Chirurgie

A girl of sixteen with undeniable signs of tuberculous such as repeated attacks of bronchitis harsh breath sounds at the left apex and old inflammations of the cervical glands consulted Cantas for a deformity of the left wrist that appeared after obscure inflammatory symptoms such as swelling and redness of the skin pain and slight fever.

The chief feature of this deformity which had prevailed for six months was a backward dislocation of the head of the ulna which formed a very marked projection on the dorsal surface of the wrist. The ulna had lost its contact with the lower end of the radius and with the carpus and the whole hand was deviated outwards. Palpation and radiography also showed decided deformity of the radius the lower part of the diaphysis of this bone 4 or 5 cm from the articular cartilage seemed to be enlarged twisted and apparently shoved down. This jamming down was more marked on the external border where the diaphysis seemed to be folded on itself like an accordion. This resulted in a change in orientation of the articular surface of the wrist, which looked downward and almost directly outward but the articulation of the first row of carpals was almost normal. Only the internal third of the articular cartilage of the radius was visible and there was no curving forward of the lower epiphysis of the radius which is mentioned in most of the cases of Madelung's disease. By comparative measurements of the two forearms it was found that the ulnas of the two sides were of the same length but the radius of the diseased side was 2 cm shorter than that of the well side. There was not much functional disturbance there was however a little difficulty and pain on forced movements of flexion and extension and the patient tired easily.

To remedy this deformity and re establish equality in the length of the two bones Cantas resected 1.5 cm of the diaphysis of the ulna 4 cm above the styloid process then he straightened the radius by manual fracture. The ulna was sutured and immobilized in a plaster cast for 30 days and the functional result was perfect. The radiocarpal articular surface resumed its normal position but the ulna still failed to come into contact with the carpus and continued to project markedly at the internal border of the wrist. Cantas attributes this case to inflammatory tuberculous following the theory that Poncet and Lenche have applied to other cases of radius curvus. The bony lesions pass through two successive stages that of osteomalacia and then of condensing osteitis.

Cantas work on the history and pathogenesis of this affection is conscientious but it does not give

any new information and there is a certain confusion in it. In fact he regards radius curvus and Madelung's subluxation as the same thing while to us it seems indispensable if confusion is to be avoided to separate the two types which have distinct anatomical pictures. He thinks too that the theory of rickets best explains the pathogenesis of the disease and says that rickets may be regarded as the consequence of a general intoxication of greater or less duration this intoxication being due to various causes, such as tuberculous syphilis gastro intestinal disturbances, alcohol etc. These different origins would have to be separated to attain any degree of clearness.

CH L. ORM ET

Lovett R. W. Principles of the Treatment of Infantile Paralysis. *J Am M Ass* 9 4 130 45
By Surg. Gynec. & Obst.

The early diagnosis of infantile paralysis is probably not of much moment to the patient because even if the diagnosis is made early it is doubtful if anything can be done to influence greatly the course of the disease.

Since the pathology of the affection is essentially a hemorrhagic myelitis with a widely distributed accompanying meningitis the acute attack and the days following it demand general quiet freedom from excitement and activity for at least three weeks or until all tenderness has disappeared.

Hexamethylenamine has been used in the acute stage and occasionally cases occur which suggest its use but no two cases are alike and the outcome of the case is not wholly determined by the treatment received. The treatment for the tender convalescent phase is to let the patient alone except for the prevention of contraction of the Achilles tendon which may become troublesome in the first two or three weeks.

With the disappearance of the tenderness the time for active treatment has begun. In the severer cases however active treatment should not be begun earlier than four weeks after the onset even if the tenderness has disappeared. The therapeutic measures at our disposal are massage electricity and muscle training. Massage improves the local and general circulation facilitates the flow of lymph and retards muscular deterioration. The value of electricity has been overrated. Muscle training is the most useful of the three therapeutic measures mentioned.

Unless the destruction of the cord has been very extensive it is very likely that some of the motor centers in any one region will have escaped destruction and it may be possible to establish new connections around the destroyed centers. In this way it may be possible by a modified route to send a motor impulse from brain to muscle. The object of muscle training is to establish these modified routes and develop them. During muscle training braces and apparatus should be applied if necessary to prevent malposition and deformity.

Operative treatment is undertaken (1) To correct fixed deformities (2) to improve muscular function (3) to secure stability of useless joints

1 These deformities are usually easily remedied by stretching and cutting

2 The improvement of muscular function is accomplished by tendon transplantation into bone or perosteum and by silk elongation of tendons. These operations should not be performed under two years after the acute attack.

3 Arthrodesis is sometimes done in adults and children over twelve years of age but for the ankle silk ligament suspension is to be preferred. And for the knee most patients prefer a brace which can be unlocked for bending or sitting down

R O RITZ

Blanchard Neglected Infantile Paralysis 1m
J Orth Su 1913 2 262

By Surg Gynec & Ob t

In Blanchard's opinion the hexamethylenamine treatment of poliomyelitis is of no proven value and the use of electricity and massage is a waste of time. He believes the cases should first and last be in the hands of the orthopedic surgeon to prevent deformities from paralysis and contracture. Transplantation of tendons about the knee such as hamstrings to quadriceps are usually failures although practiced by Lange. Lorenz treats quadriceps paralysis by supracondylar osteotomy producing a back-lock to the knee and enabling the leg to hold the body weight. Jones of Liverpool does a skin shortening operation on the convex side of the deformity removing an area of skin and suturing the edges in the proper line to produce tension in the required direction. This tension however becomes inefficient after a time because of stretching of the skin. The silk ligament attached to bone at both ends is satisfactory. Discussion of this paper brings out the use by Gallie of Toronto of the tendon of the paralyzed muscle instead of silk as a guy rope. Nerve anastomosis is suggested as the ideal operation for restoring muscular equilibrium but it is still in an experimental stage.

W A. CLARK

Stoßel A Treatment of Spastic Paralysis (Zur Behandlung des spastischen Lähmungs) Ver
handl d deut h orth p Gesellsch 9 3 in 337
By Zentralbl f d ges Ch u Grenzgeb

The author first discusses the origin of spastic paralysis and gives as his own opinion that the pathological condition of the muscle is characterized by two clinical pictures viz (1) The muscle shows a great relaxation as degree of paresis (2) The tone of the muscle is imperfectly regulated. These two factors may be differently proportioned in different cases and frequently paresis is the least important one. From his experience the author distinguishes a primary and a secondary condition of the muscle in the primary ones the muscles are more or less paralytic and their tone imperfectly regulated be-

cause of injury to the brain the secondary condition is brought about by the fact that external conditions cause the muscle so injured to be kept in a certain position for a long time so that the points of insertion of certain muscles are brought closer together and become hypertonic while their antagonists are lengthened and become hypotonic — contracture results.

Stoßel gives numerous cases in his practice as well as Munk's experiments on monkeys to support the above view. Treatment therefore should seek to prevent the secondary condition or if it has already arisen to transform it into the first. Prophylaxis can be accomplished by changing the position of the limb several times a day and by passive and later active movements. If the secondary condition has already begun it can be overcome in mild cases by splints apparatus etc in other cases operative treatment will be necessary. He discusses the aim of operative procedures on the limbs in spastic paralysis which is chiefly to overcome the hypertonicity of the contracted muscles but he rejects tenotomy shortening the antagonists of the contracted muscle tendon transplantation to the antagonistic muscles and nerve transplantation. He recommends his nerve operation as the only logical procedure. A partial elimination of the motor nerve paths causes an immediate disappearance of the hypertonus and allows correction of the deformity. The operation only furnishes a basis for the very important after treatment.

CZEKA

Davis, G G Treatment of Poliomyelitis by
Operative Measures 11 W J 9 4 114
By Surg Gynec & Ob t

Davis comments on the rapid rise of orthopedic surgery as a distinct specialty and lays emphasis on the marked progress shown in the treatment of poliomyelitis. A few years ago treatment consisted practically of electricity massage and braces but in recent years operative surgery has opened up a new field of aid for these paralytics. Operations at present are resorted to as a late procedure and only when further improvement or restoration of muscle power is not to be expected. When the surgeons become more experienced operative procedures will undoubtedly be resorted to earlier than is now considered advisable. In many cases the patient must either look forward to wearing braces indefinitely or else the limb must be so rearranged anatomically that it can fulfill its purpose without apparatus.

Remodeling is done by operations on the bones and joints to restrict their movements or on the tendons and muscles to restore the balance of the affected parts. Each case offers a problem in itself. As an example of the benefits of operation Davis presents the case of a boy 13 years old who was paralyzed in the lower trunk and left lower extremity. At the age of one year the back was partially paralyzed the leg and foot were flaccid with no power in the muscles except the biceps and

one or two of the foot muscles there was extreme outward rotation of the foot and later knock knee developed. For seven years, braces for the back and leg were worn but as the boy was exceedingly active the braces were continually being bent or broken and were in constant need of repair.

In order to do away with the continual expense and annoyance of brace wearing, operative procedures were resorted to. Knock knee was first corrected by osteotomy of the femur. Three months later fixation of the ankle-joint by arthrodesis was performed at the same time the biceps tendon was transplanted to the patellar tendon to get extension of the knee and the anterior part of the fascia lata was sutured to the great trochanter to insure internal rotation of the foot. Braces were worn until the operative wound were healed and then they were discarded. At the present time the boy walks well with no external appearance the foot is held in the normal position, and the course of treatment is ended instead of being indefinitely continued.

Dr. F. I. WILL.

Marshall H. W. Old and Recent Ideas Concerning Treatment of Flat Foot. *Bull. U. of S. J.* 914 cl 4. By Surg. Gynec. & Obst.

The author calls attention to the vast number of people wearing shoes for orthopedic design and plate and says that in spite of precise knowledge of the anatomy and pathology of flat foot which has accumulated the fact remains that a considerable number of persons are made worse instead of better by wearing shoes of orthopedic shapes. Others are made worse by shoes with flexible shanks. Many are not improved by arch supports and that some continue to have weak feet after trying all methods.

The first important reason in the author's opinion for failure is due to the fact that wearing of orthopedic shoes and plates is due to whims of customers, relying upon experiences of their friends and the persuasion of shoe salesmen and to the failure of physicians to understand the precise needs of each patient.

He states that in anatomical dissection demonstrates that feet subjected to tight shoes are changed structurally in bones and ligaments and it is foolish to expect to put deformed feet in orthopedic shoes as normal shoes can be restored only very gradually.

In discussing arch supports he points out that in acute foot is an frequently additional pressure to the arches cannot be endured and that often the wearing of flexible shoes and the bolshomet of artificial supports give good results.

He brings forth his postulate that there is a need for a better understanding of physiological considerations more than anatomical or pathological ones in the final solution of the treatment that although structural defect are the use of present and future functional abnormalities yet simultaneously they also represent results of past physiological defects or primary congenital peculiarities.

The normal condition of feet depends on the following combination of elements:

1. The amount of weight borne and the length of time it is endured.

2. The degree of healthy vitality existing at the particular time in ligaments and muscles supporting the arches that is represented by their strength.

3. Favorable and unfavorable qualities of blood circulating through the feet at the given time.

These considerations in conjunction with the anatomical and pathological findings make the only working formula for each case.

The proper view to take toward various orthopedic devices and shoes is one of recognition that most of these have merits and that they indicate the number of stages through which any single case may pass.

He emphasizes the fact that health always represents a balanced state between various physiological elements and treatment is divided into steps toward restoring usual ratios between these several forces. In health if a person becomes heavier then compensatory changes in the strength of muscles and ligaments are seen so that normal balances between the pressure upon the arches and muscle strength are not upset.

In weakened feet pressure and strain are diminished by supporting arches by reducing mechanical strain by rest or by continuing supports with partial rest.

Vascular elements in development of foot strain are frequently poorly understood yet its importance is convincingly and cited by the frequency with which debilitated conditions indicate development of foot sympathies.

The author discusses intestinal putrefaction and its effects on the condition of the blood with resultant anemias and articular pains. He thinks that if proportions of substances in the circulation remain favorable the individual thrives but vice versa if there is a deterioration muscles and ligaments as well as organs suffer. He makes a plea for a more thorough understanding of the changes in the blood and the biological needs of living tissues.

Many cases of train Marshall's opinion may be cured by a general tonic treatment but that some cases of flat foot must be recognized as beyond control when chronic progressive diseases of the gastro-intestinal tract, kidneys and other organs prevent correction of vascular conditions.

The author sums up by saying that too much can be known about anatomy and pathology yet it should be remembered that of themselves they offer only incomplete suggestions as to proper treatment and equally important physiological and biological needs must be understood and familiarized.

J. O. WALLACE

McIlhenny P. A. Flat Feet and What They Lead to. *Bull. U. of S. J.* 914 cl 5. By Surg. Gynec. & Obst.

The author describes the two main arches and the long depression of the longitudinal arch. II

states that in order to get rid of painful symptoms the foot is abducted beyond the weight bearing angle until the whole leg is rotated outward this in time causing a stretching of the capsules and ligaments on the inside of the knee a position of flexion and genu valgum

As a result the head of the femur is rotated forward producing a stretching of the anterior ligaments and a consequent laxity of the posterior portion of the capsule and the ileofemoral ligaments this in time allows the pelvis to sag backwards carrying with it the sacrum and lumbar spine producing pressure on the anterior portions of the vertebrae a pinching of the vertebral discs and a stretching of the posterior ligaments of the lumbar and lumbosacral spine producing lumbar pain simulating sciatica

To compensate lumbar lordosis there is a forward bending of the dorsal spine with a depression of the sternum and chest wall Going hand in hand from thoracic to abdominal breathing he shows the resultant enteroptosis He considers the most prominent symptoms to be chronic backache chronic constipation nervous irritability and sometimes digestive disturbances He reports five cases in which the patients although they had had deformities in their feet presented themselves for treatment for discomforts above described

J O WALLACE

Harris, J R Flat Feet the Etiological Relation of Posture and Gait Thereto *M I S* 9c
1914 1 By Surg Gynec & Obst

The author declares that in the army efficiency means mobility and mobility spells good feet He states that from several years observation he is forced to conclude that a faulty method of standing and walking is if not the prime cause at least a large factor in an etiological circle

He divides standing into two classes

1 The pigeon toe or position of strength and readiness

2 The everted or play foot or position of muscular and ligamentous relaxation

He states that it is among those who stand in the everted position that flat and weak feet are found that it is an unnatural position forced by education upon the race and that while it is an admirable position to assume occasionally when one must rest standing the ligaments are not adapted to accept continuous strain and will inevitably stretch

The strong position standing with feet slightly separated heels as far apart as the toes is the better because (1) It is one of the greater stability since a square is necessarily more stable than a triangle having sides of the same lengths (2) it is the position in which the muscles and joints are in readiness for immediate action (3) it is the position from which the proper gait is easily assumed

He then states there are two extreme gaits in walking which merge into each other

1 The Indian gait

2 The splay foot waddle

He then states that all are agreed that the toes should turn in in walking

He says the key to the correct gait is this In the correct stride the hip of the advancing leg is thrown forward as the foot is in the waddle the hip is thrown or turned backward

He states that the mechanism of walking is essentially that with one foot in an advanced fixed or pivoted position, the other foot swung forward and planted in a new advanced position to be in turn the base or pivot for a new cycle of movement

The correct stride is one in which the walker swings the body as well as the leg the toe is turned in not because the walker is pigeon toed but because the foot and body is swung around in an effort to coordinate and use all the body in walking

In the incorrect gait the start is the same but the foot is advanced sideways and the hip swung backwards

He gives a number of exercises and says that all patent devices intended to support the arch should be avoided by soldiers

J O WALLACE

Ryerson E W Recent Advances in Orthopedic Surgery *T x St J M d* 914 285
By Surg Gynec & Obst

The author expresses satisfaction with results in cases of Pott's disease treated by the method of Albee i e transplanting a bone splint from the tibia to the split spinous processes of the vertebrae In hip and knee tuberculosis of adults the joint should be ankylosed as soon as possible by a conservative resection or arthrodesis

Deformities due to infantile paralysis may in many cases be corrected by tendon transplantation using Lange's bichloride silk insertions should be made into the bone through drillholes Suspension of the foot by heavy silk cords is successful in many cases of drop foot where no transplantation can be done

Abbott's method of treating scoliosis has given encouraging results, but requires more time than at first estimated

All cases of arthritis deformans usually due to toxins from some definite focus which is most often in the tonsils should have tonsillectomy performed as a routine measure

Mechanical disturbances of fifth lumbar vertebra and sacro iliac joints are frequent causes of sciatica lumbago and backache Arthroplasty for ankylosed joints is successful in jaw hip elbow shoulder wrist and finger joints but disappointing in the knee-joints.

not overcome by rest it is due to compression of the spinal nerve roots. If the anterior roots are involved there may be painful paralyses (Charcot). These root symptoms precede the medullary symptoms which do not show anything especially characteristic. There is first flaccid paralysis with abolition of reflexes and then spastic paralysis with exaggeration of reflexes and at length trophic disturbances.

Of the above cases 55 were operated on, 32 of them for sarcoma, 15 for hydatid cyst and only 3 for carcinoma. There were 19 deaths, 30 per cent and 13-23 per cent recoveries without recurrence for several years. There were 22 per cent of permanent improvements and the rest showed temporary improvement. The greatest improvement was shown in the lessening of pain.

The technique varies with the nature of the lesion, sarcoma being particularly difficult to remove because it bleeds and invades the neighboring tissues. If a radical operation is impossible it is well to cut the posterior roots to overcome the pain.

Extravertebral tumors are tumors of neighboring organs which invade the cord and column secondarily. Of these there are 72 per cent sarcoma, 16 per cent carcinoma, 10 per cent hydatid cysts, 2 per cent fibroma, lipoma, etc. Invasion sometimes takes place by destruction of the vertebrae but more generally through the vertebral foramina.

There is pain accompanying these tumors and when the tumor penetrates the cord there are medullary symptoms, motor and trophic which often appear in a rapid and overwhelming fashion.

Operation is rarely possible in these cases because the tumors are generally mediastinal sarcomata, which cannot be reached. The dorsal tumors can be removed but this is the most uncommon localization. It is always necessary to resect the spinous process and lamina and separate the dura mater from the pedicle of the tumor carefully.

Non medullary tumors inside the spinal cavity are the most frequent and the most amenable to surgical treatment. The majority are sarcomata, carcinomata being rare and always secondary. They are generally of about the same size and are solitary, can be isolated from the neighboring tissues and rarely recur—0 per cent of cases did not recur. They generally originate in the dura mater, the operation can be extradural in about 62 per cent of the cases and fortunately the posterolateral location is the most frequent. The compression of the cord is mechanical and consequently curable after removal of the tumor.

In the first stage there is persistent pain of long duration which may be on one or both sides, then Brown Sequard's syndrome appears. Finally there is paretic and then flaccid paraplegia with the corresponding disturbances of the reflexes, with loss of control of the sphincters and trophic disorders. They appear in the first stage by a horizontal lesion not a vertical one which is an important point in differential diagnosis.

There were 27 cases of medullary tumors. These were generally gliomata or sarcomata in which the spinal column is intact and generally the meninges also. The tumor may be capable of enucleation or it may have infiltrated the cord.

These tumors manifest themselves by increase in volume of the cord and absence of pulsation in it. They are solitary and do not give rise to metastases when they are encapsulated, they are under pressure so that they project from the cord as soon as an opening is made.

The important thing to determine is the location of the upper end of the tumor, this is done by ascertaining where pain first appeared and by the upper limit of the zone of hyperesthesia which appears above the zone of anaesthesia.

The operation is simple laminectomy in the same lateral position and if it is necessary to open the dura mater the Trendelenburg position should be adopted to avoid the escape of the cerebrospinal fluid.

Ether is preferable as an anesthetic though local anesthesia may be used. The incision should be at the supposed site of the tumor. The muscles are pulled aside and the opening tamponed to assure haemostasis, preliminary removal of the spinous processes facilitates the laminectomy. If the tumor is extradural it is solitary and can be enucleated but if it is intradural the dura mater should be opened gently and slowly to avoid a too rapid escape of the cerebrospinal fluid. When the tumor appears it should be enucleated if possible or curetted if it is a sarcoma (Flatau).

If it is inoperable section of the posterior roots is indicated if it does not appear it may be necessary to explore the anterior surface of the cord, drawing it up with a blunt hook. If it is operable and the cord completely destroyed the section of the cord containing it may be removed which will abolish pain, however if it is inoperable and the cord only partially destroyed it is better to leave it alone. Unless there are special indications the entire operation should be performed at once. Drainage is dangerous and exposes the part to infection. Every precaution possible should be taken to avoid infection and cicatrization.

Often after the operation there is an exaggeration of the symptoms which is only temporary and improvement shows first in the sensory and then in the motor symptoms. The mortality at present is about 15 per cent and shows a tendency to improve. J. OLIVIER.

Pussep L. M.: Diseases of the Cauda Equina and Their Operative Treatment (Über die Erkrankungen der Cauda equina und die operative Behandlung derselben). R. St. Petersburg 1913.

36

By Zentralblatt für Chirurgie u. Grenzgebiete

In discussing the symptoms of diseases of the cauda equina and the conus medullaris, the author says that in conus medullaris there is often dissection

tion of sensation, pain and fibrillary twitching are rare. The diseased zones are symmetrical. There is only a slight tendency to the formation of bed sores in the sacral region, but the function of the bladder and rectum is almost always disturbed.

In disease of the cauda equina, sensation is always disturbed. There is generally pain, fibrillary twitching is frequent, and the diseased zones are generally not symmetrical. Sacral bed sores occur only where the disease is of very long duration and the bladder and rectum are not always involved. The important point to be observed is that on pressure on the nerve of the cauda equina there is frequently pain in the leg generally on one side only, which is often the only symptom. The author lays great stress on this roentgen picture. The author gives a review of all the cases published in the literature in which operation was undertaken for disease of the cauda equina. He divides them into four groups: (1) In the first group are the cases in which there was pressure on the cauda equina from tumors or inflammatory processes of the spine; there are 15 cases reported in this group. (2) The second group includes those in which there was a tumor in the dura or in the cauda equina itself; there are none of these. (3) The third group embraces traumatic injuries of the cauda equina; two cases have been published which were operated on successfully. (4) In the fourth group there is only a single case of Allessandria's in which there was an inflammatory process of the dura mater.

He adds eight cases of his own which were operated on and one which was not. In three cases there were traumatic injuries of the cauda equina. In the first case, after a blow on the back, paralysis of both legs occurred. On operation the arch of the fourth lumbar vertebra was found to be pressing on the cauda equina. On opening the dura there were adhesions and a cyst as large as a hazelnut which was removed. The patient could not improve very quickly after the operation but three months later he died from purulent pyelitis. The second patient complained of pain in the legs and convulsive twitching which began after a severe injury. Operation showed that there were extensive adhesions of the nerves of the cauda equina to each other and to the dura as a result of a fracture of part of the sacrum. These so far they could be reached were freed. The patient was discharged free of symptoms 5 weeks later. The third patient complained of weakness in the legs which had existed for eight years and bladder disturbances which had persisted for two years. The roentgen picture showed the end of a knife between the first and second sacral vertebrae. The knife which had been in the patient's body after 3 years was removed and the patient discharged much improved.

In four other cases there were inflammatory processes of the spinal meninges. In the first case the patient complained of pain and weakness in the legs. On operation a cyst as large as a hazelnut was

found under the pia and removed. The patient was discharged, markedly improved after three weeks. The second patient complained of pain in the left leg which had begun several months before after he had received a blow on the sacrum. On operation the dura was found very much thickened and there were nodules the size of pin heads in individual nerves of the cauda equina which were removed. The patient was discharged cured after four weeks. The third patient complained of pain in the right leg. On operation there was a cyst outside the dura in the region of the third sacral nerve. It was removed and the patient discharged four weeks later very much improved.

In the fourth case there was pain in the right and occasionally in the left leg. There had previously been parasthesia. On operation two cysts as large as plums were found between the first and second sacral vertebrae, one of which was inside the dura and one outside it. The former could not be completely removed but the patient was discharged much improved a month later.

In conclusion the author reports the following gunshot injury. The patient was injured during the Japanese war in 1904. In 1907 he began to have pain in the spine on motion and weakness in the legs. The roentgen picture showed the bullet in the region of the fourth lumbar vertebra but it could not be found on operation. Severe pain was experienced again in 1910 and the roentgen picture showed that the bullet which lay in the body of the vertebra had sunk and become located in such a way that its point pressed on the cauda equina. Operation was performed again and the bullet found and removed after which the patient was discharged completely cured. In the first case there was a tubercular process in the sacrum so it was treated conservatively with the result that the pain completely disappeared and the rest of the symptoms improved. From all of which the author draws the conclusion that in chronic inflammatory processes in the region of the cauda equina, as well as in traumatic injuries, operation is indicated and gives good results. He further calls attention to the fact that as several cases show the symptoms may not appear until a long time after the injury.

104 Hour

11. Nicks experience with Forster's Operation.
1st J Orth & S 913, 1907

By Surg. Gyner & Obst.

The author reports fourteen cases in which he performed section of the posterior nerve roots—Forster's operation—for spastic conditions with good results in nearly all. Cessation of the spasm occurred immediately after the operation and did not recur to any extent. The operation as described consists in chiseling off the spinous processes at the base turning them back with soft parts attached removing the posterior arch of the canal opening the dura and removing 1 cm. of the posterior root on each side.

W. A. Cline

DISEASES AND SURGERY OF THE SKIN, FASCIA, APPLNDAGES

Kolb, A. Experimental Study of the Contraction of Transplanted Fascia and Its Significance in Plastic Operations and Around the Intestine (Über die Schrumpfung der freitragbaren Fascia und die Bedeutung derselben bei plastischen Operationen und bei Linschrumpfung des Darmes). Experimentell untersucht. (Zentralblatt für Chirurgie) 1913, 39, 393.

It is found by measurement that a piece of fascia removed from the body immediately contracts to 1/5th of its length and breadth.

This primary contraction however has no importance in practice. In order to determine whether when transplanted it underwent a secondary contraction he placed rings of fascia around the intestine and fastened them. Symptom of stenosis and ileus appeared after a time showing that fascia transplanted without being under tension contracts a little but that this contraction is considerably less than the primary one. This secondary contraction must be allowed for in transplanting fascia for operations on the intestinal tract and on the face. KIRSCHNER.

MISCELLANEOUS

CLINICAL ENTITIES — TUMORS ULCERS ABSCESSSES ETC

Rous, P. and Murphy J. B. On the Causation by Filterable Agents of Three Distinct Chicken Tumors. J. Exp. Med. 1914, 19, 157.

Rous and Murphy describe a third chicken tumor which is transmissible by means of a filterable agent. The three tumors are very unlike the third being a papilloma of the pericardium, the transmissible one a sarcoma of the pericardium.

The authors point out though B. Kirschner considers impermeable to small bacteria and each agent is distinct in that it gives rise only to growths of the exact kind from which it was derived. Two of the three are found to be active tumor tissue which has been lined or glycogenated.

JAMES I. C. M. D.

Bernard, W. A. Treatment of Tetanus by the Rational Method of Ashhurst and John the Development of Suppurative Serum (Aseptic) Meningitis. Following the Intraspinal Injection of Tetanus Antitoxin with Report of a Case. J. Am. Med. Ass. 1914, 10, 101.

B. S. G. C. M. D.

Ashhurst and John the rational use of tetanus antitoxin consists in (1) the intraspinal injection of antitoxin (2) the intraspinal injection (3) the intravenous injection and (4) the infiltration of the tissues about the site of the injury. The quantity used would be very much greater than the quantity here given by the subcutaneous route. The authors feel that with their method the old view that tetanus is of no avail after the symptoms of tetanus have developed must be abandoned. They recorded four cases of tetanus by this method: 1910 at the Colon Hospital, C. L. and used chloroform and morphine. One patient whose case was a severe one, 11-day incubation period recovered.

Bernard summarizes a case as follows: A young man of 21 years with cephalic tetanus which after six days incubation showed a gradual onset of symptoms. Treatment which was begun eight days after the injury and two days after the onset of symptoms consisted of intraneural injection of a small quantity of tetanus antitoxin into the left facial nerve intraspinal injections of 23,000 units intraneural injections of 60,000 units subcutaneous injection of 8,000 units infiltration of tissues about the site of the injury with 2,000 units total quantity of antitoxin 98,000 units development of meningitis within six hours after first intraspinal injection purulent fluid sterile by microscopical and cultural aerobic and anaerobic examination. There was rapid recovery from both the tetanus and meningitis.

Bernard considers that this case demonstrates that the introduction of a foreign serum into the spinal canal may cause a reaction that presents all the clinical and pathological evidences of an acute purulent meningitis except that no bacteria can be demonstrated in the purulent cerebrospinal fluid. It seems plausible that exacerbations frequently following the intraspinal injections of serum meningococcus meningitis are due to the reaction to the horse serum and that it is independent of the condition of hypersensitiveness. L. C. DAVIS.

BLOOD AND LYMPH-VESSLS

Dibernardo, A. L. Traumatic Arteriovenous Aneurysm of the Common Carotid and the Left Internal Jugular Fatiguation; Recovery (Anévrisme traumatique artérioveineux de la carotide primitive et de la veine jugulaire interne gauche). (Bull. de la Société de Médecine de Paris) 1913, 2, 2189.

B. J. M. D. C. M. D.

Cases of the above are rare. Since 1859 there have been only 11 operations for arteriovenous aneurysm of the common carotid and the internal

Of these twenty four only two were proven to be of the human type the rest were all bovine. Eighty four per cent of the children thus afflicted two years of age had been fed from birth on unsterilized cows milk and in only three cases was a history of tuberculous found in the family.

The author states that cows not having tuberculous of the udder may readily transmit the tubercle bacillus in the milk. He emphasizes the extreme importance of adequate dairy inspection and the taking of the tuberculous cows out of the herd as one tuberculous cow may readily infect the milk of a good sized herd.

The relations between the channels of infection and the group of glands involved is discussed. He says the more frequent involvement of the gland in front of the sternomastoid muscle in the upper carotid region is strongly suggestive of the faucial tonsil being more often a source of infection than the adenoids. He investigated the faucial tonsil in 64 consecutive cases of children suffering from tuberculous disease of the upper deep cervical glands. Twenty four of these cases showed histological evidence of tuberculous in the tonsils but no clinical signs were present.

The chief sites for tuberculous lesions in the tonsils are in the deeper parts of the crypts especially the supratonsillar group or immediately under the mucous membrane near the mouths of the crypts or deep in the tonsil close to the posterior capsule. He concludes that cow's milk containing bovine tubercle bacilli is clearly the cause of 90 per cent of the cases of tuberculous cervical glands in infants and children residing in Edinburgh and the surrounding district.

M. S. HENKES

Masani R. Method of Cultivating Anaerobic Bacteria and Their Clinical Importance as the Cause of Putrid Suppuration Especially of Putrid Empyema (Über anaerobe Eitlerie. Bedeutung derselben als die Ursache als Ursache der eitrigen Empyema. Beitrag zur Methodik der Anaerobenzucht.) *Ztsch f. p. Med.* 9 3 u 81.

By Zentralbl. f. d. ges. Ch. Grenzgeb.

The author has studied a number of the known anaerobes especially in their relation to human pathology. He adds also the description of three new species of anaerobic bacteria: bacillus disciformis, bacillus annuliformans, and bacillus anaerobius diphtheroides. He comes to the conclusion that the frequently asserted variability of anaerobes is a mistake. Probably pollutions of the cultures with other micro-organisms are so interpreted for anaerobes readily grow in symbiosis.

As previous methods of culture do not enable one to be sure of having a pure culture or of recognizing pollutions the author has devised a method that enables him in a relatively simple way to plant a great number of series in plates. The bacteria promulgate faster and grow better if riba or creptin is added to the nutrient medium and salt left out.

Pollutions are easily recognized by reinoculations on crepton bouillon.

The author confirms the statements of other authors that the putrid decomposition of pus is generally due to anaerobes. He could grow anaerobes from all the specimens of putrid pus examined from empyema liver abscess putrid bronchitis etc. The pus was generally thin and contained few leucocytes the wounds generally showed little tendency to heal there were only slight signs of reaction and the patients often died suddenly. The author recommends Bulau's siphon drainage in the treatment of purulent empyema.

STAMMLER

Ten Broeck L. L. A Rapid Method of Isolating Pathogenic Streptococci from Contaminated Fields *J Am M Ass* 19 4 124, 3.

By Surg. Gynec. & Obst.

The technique devised by the author is based upon the following principles. The use of liquid media as suggested by Sabouraud the extreme susceptibility of rabbits to streptococci the peculiar reaction and vulnerability of the peritoneum to streptococcal infections, as described by Murphy. It was found that by grading the dose the peritoneum would fall a prey to the streptococcus even before the other pathogens took hold and that a certain point of the disease was reached when there would be the characteristic dry peritonitis or retroperitoneal cellulitis. Intraperitoneal injections of from 2 to 5 ccm of fresh bouillon cultures of a mixed growth were made every two or three hours. At the earliest signs of sepsis the animal was chloroformed and a dry peritonitis was found yielding pure cultures of intensely virulent streptococci.

This method has been used in four cases of subcutaneous infection in all of which the diversified bacteriological flora had misled the attendants and in which the method not alone promptly cleared up the diagnosis but was made the basis for proper immunological measures with favorable results.

The author does not suggest that this method be used to the exclusion of others. It is to be used in conjunction with other approved methods. Neither is it to be expected that there will always be a pure streptococcal culture to the exclusion of other pathologists but the peculiar reaction will help establish the diagnosis. The more virulent the streptococcus, the more certain will be the result.

In persistent postnasal infections the author has been able to find the streptococcus by first using negative pressure to draw from the deep sinuses and then having the patient swallow to isolate the posterior nares he changes from negative to positive pressure opening the other nostril. A stream of air in this way is forced into one nostril and out the other and can be directed into suitable media. The colonies on the solid media are for the most part discrete and are derived from the posterior nares just as well as from the anterior a result impossible to attain by any method requiring the use of a swab.

EDWARD L. CORNWELL

SURGICAL THERAPEUTICS

MacFarlan D: Notes in the Study of Potassium
Mercuric Iodide *J Am M S* 1914 July 17
By Surg Gynec & Obst

The author presents quite an extensive study of the drug. He shows that in a dilution of 1 to 80,000 it renders cultures of bacillus typhosus, staphylococcus bacillus lactis bulgaricus, yeast sugar solution and bacillus acid lactici sterile even in a dilution of 1 to 100,000 the bacillus typhosus was killed. The preparation of the drug its toxicity the effect on physiological activities and its uses are discussed. Little can be said of the noxious effects on the gastrointestinal tract when the drug is taken internally in mill doses. There is no inhibition of ferment activity and no harm as could occur would arise from the destruction of intestinal bacteria.

Regarding its internal uses the author states that it seems to have a marked effect on all catarrhal conditions of the mucous membranes, clearing up the common cold apparently hastening the course of croup and modifying the acute infections of the nose and throat and bronchi.

It has its greatest field of usefulness, however as an antiseptic. It is practically universal in its possibilities, for in great dilutions its local effects and toxicity are insignificant while its germicidal qualities still remain high. The value of these virtues can readily be realized from the following facts brought out by the author:

1 The drug may be taken internally in doses of 5 drops of a one per cent solution without toxic effect.

2 A one per cent solution but slightly irritant.

3 A dilution of 1 to 80,000 or nearly one thousandth of one per cent exhibits marked germicidal effect.

By its use the purulent discharge of so many minor surgical cases such as infected burns, old leg ulcers and ragged wounds is rapidly cleared up. Even when the infection is somewhat subcutaneous as in felon and boils and there is as yet no pointing or definite formation of pus a wet dressing of one per cent potassium mercuric-iodide will usually reduce the prolonged course of the case and will frequently abort it altogether.

For sterilizing instruments the drug is excellent except for its tendency to tarnish if left in contact too long though this can be easily overcome by the addition of sodium bicarbonate to the solution.

LOWELL CORNELL

ELECTROLOGY

Morton R: Discussion on the Technique and
Standardization of Blunt Needles. *Pac R J Soc M* 1913 Vol. Electrotherap Sect, 5
By Surg Gynec & Obst

Morton observed that the adoption of a standard opaque needle would make results comparable. He

had sought information from various radiologists on the following points:

- 1 Total quantity
- 2 Amount of bismuth or barium which preferred and why
- 3 Medium of suspension
- 4 Consistency
- 5 Flavoring sugar etc
- 6 Preparation of the patient

Morton remarked that the disagreement of physicians was an ancient problem but the truth of it was never more in evidence than when he came to tabulate the replies, about the only point of agreement being the use of sugar and flavors to make the material palatable. The total quantity varied from 5 to 20 oz. about half gave 10 oz. the average being 13 oz. The amount of bismuth or barium ranged from 1 to 4 1/2 the average being 2 oz. two thirds of those replying used bread and milk as a medium. Other media employed were linseed oil, buttermilk, corn flour and arrowroot. The majority prepared their patients as for an anesthetic. Morton noted that the atomic weights of bismuth and barium were 210 and 140 respectively hence larger volumes of the latter were necessary. He suggested the possibility of the chemist producing a lighter form of barium sulphate like the light form of magnesium carbonate. Morton also suggested that if oxychloride of bismuth could be made in a lighter form it would be ideal.

Morton described his routine which included barium sulphate which he had been using two years. He used two ounces of it in four ounces of oatmeal porridge with one ounce of milk. It is a little brown sugar.

Others who participated in the discussion were Aldridge, Bythell, Bruce, Cooper, Codd, Bailey, Batten, a Holland Committee of the Section of Compression. Morton, Scott, Barclay and Jordan were invited to further investigate the matter.

Shoop F J R Y Thrapsey Lo J L M J
10 4 7 R Y Gynec & Obst

Shoop claims that fluoroscopic therapy is necessary to have a machine or coil that will show eight or ten degrees of penetration by the Benoist seal and a tube having sufficient vacuum resistance to allow only a few moments and a half in fluoroscopy for the flow through it.

He cites facts to show that it is the rays halted in the tube absorbed by it and not the rays that pass through which affect the tissue and that the hard catheter pass through may by suitable screens or filters be halted in certain depths as desired and coated with absorbable rays for therapeutic work. All material in the tube of satrap paper is used. It is using a hard tube and raying tube in small area of skin through aperture. It is placed over the part to be treated hanging at the angle of the tube.

each time the rays were all directed towards the center of the mass to be rayed in the deep tissue. By this cross-fire method it is possible to produce an erythematous dose at the point desired without in the least damaging the overlying tissues. The three types of uteri benefited by deep raying are the fibromatous, the carcinomatous, and the sclerotic. Conditions that on account of their tendency to deplete and exhaust the possessor by repeated hemorrhages, present more or less of a problem to the gynecologist as to what method of dealing with the particular case will give the best chance for a cure or relief.

He concludes by quoting Doderlein who reports thirty-two cases of myoma and hemorrhage which received prompt and permanent benefit under radiotherapy with no bad effects. The tumors disappeared entirely in many cases. More surprising still he found a combination of roentgen ray and mesothorium treatment effective in many cases of uterine cancer. Six cases are described and reproductions given of the microscopical picture before and after treatment. He thinks the rays had a direct effect on the carcinoma cells and not as has been previously held that the cancer cells were affected secondarily by contraction of the surrounding connective tissue. He also reports eight cases of unsuccessful treatment of cancer which had returned after operation. JOHN G. BURKE

Fahler G E Present Day Danger of Rontgen Ray Burns and How to Prevent Them *J Am M A s 19 4 1 w 89* By Surg Gynec & Obst

Fahler believes that the combination of enthusiasm for the use of the roentgen ray and a false sense of safety will lead to disastrous results in the hands of untrained and unguarded physicians and that the present-day use of the roentgen rays is perhaps made safe only because there is so much more knowledge concerning their use and danger. He believes that most of the burns which have been produced by physicians lately are due to a lack of ability to judge the penetration of the rays needed.

The author sees great danger in the increased use of the fluoroscope if physicians do not take the trouble to study the underlying principles governing the use of the roentgen ray. To avoid roentgen burns during examinations Fahler suggests that as small an amount of rays be used as is consistent with the examination, second that the quality of the rays used be such as will penetrate the tissues third that every examination be made as short as possible thereby lessening the total amount of rays to be absorbed fourth intensifying screens should be used when practical, fifth that filters be used for the elimination of the softer rays sixth that the rays be confined to the part actually under examination.

Burns to the operator may be avoided (1) by keeping entirely out of the field of rays, by working from an adjoining room with lead lined walls between or by the use of lead lined cabinets (2) by

confining the rays about the tube so that the only way of exit is through the aperture made for the examination of the patient and (3) by means of shields aprons gloves etc.

Burns during roentgen therapy may be avoided (1) by following the same general principles referred to in the diagnosis (2) by measuring each dose given and never exceeding the limit of skin toleration as indicated by the dosimeter (3) by allowing an interval of three weeks between the repetition of the dose on any particular area of skin (4) by the use of more filtration than would be used in diagnostic work (5) by keeping in mind the fact that epithelium and glandular tissues are more sensitive than any other tissue to the ray (6) by avoiding any other form of irritation on the skin treated such as counterirritation high frequency currents liniments stimulating ointments antiseptics etc.

Fahler believes that roentgenology is more distinctly a specialty than any other because to master it one must be a good physician must have a good general knowledge of pathology both in general medicine and the specialties, must have a large equipment must give much time to the mastery of details and must always be cautious.

EDWARD H. SKINNER

Riehl G: Carcinoma and Radium (Carcinom und Radium) *W en M W chenschr 19 3 xxvi 1645*
By Zentralbl f d ges Chur u Grenzgeb

The Vienna Central Clinic for radium treatment has at present $1\frac{1}{4}$ grms of radium but the greater part of this has been available only since August 1913. The clinic is directly connected with an out-patient department in which the practicing physicians of the city can treat their patients the cases treated inside having a special ward provided with radium set apart for them. The apparatus is described the salts used the entire radium content and the per cubic centimeter of surface irradiated and the tin foil filter $1/100$ mm thick for the absorption of the β rays—the γ rays being excluded by surrounding the material with gummed paper. In stating the number of milligram hours used it is necessary to give such information and state the kind of filter material used and its strength. Platinum and aluminum are recommended as filter materials because of the comparatively slight degree of irritation from their secondary rays—the so called Dornum tubes for holding radium are made from the former metal.

In deep irradiation in which the metal filter is of primary importance it is well to put cotton wool paper or something of the sort between the latter and the skin to avoid the effect of the secondary rays. The effect of secondary rays in deep irradiation seems to depend on secondary rays originating in the tissues. Attempts to sensitize the tissue in this direction have not given any definite results. In the treatment of superficial carcinoma these considerations are of no importance.

With the use of relatively small doses of radium there is nothing new in the treatment of skin cancer but by the application of large doses, several thousand milligram hours even large skin carcinomata were favorably affected. This was also true in a case of recurrent mammary carcinoma with a dose of 23,000 milligram hours but in giving large doses the surrounding healthy tissues were also injured although no indirect effect was demonstrable on metastases lymph glands, etc. that were not irradiated. In intensive irradiation even with strong filtration there are sometimes necroses in which the blood vessels remain intact for a long time and there is a more or less injurious effect on the general condition. Too weak irradiation on the other hand may stimulate the growth of the tumor.

METZGER.

Diefenbach W H Radium in the Treatment of Cancer *Med Rec* 19 3 13331 063
By Surg Gynec & Obst

The author gives a résumé of Diefenbach's experience with radium. In one case a laparotomy was performed for the express purpose of procuring access to an inoperable sarcoma of the groin and injecting the same with an ounce of gelatine containing 20 mg of 25,000 activity radium bromide. The injection was followed by irregularity of myocardial contractions the attack lasting for thirty-six hours. The patient returned home in two weeks apparently cured and within four months the large mass which was fully eight inches in diameter had become much smaller. The patient was apparently in good health for two years but finally died from edema of the lung ascribed to metastases.

Post mortem examination showed the tumor to be much reduced having a diameter of about two and a half inches. Cicatrization had set in but had not become complete so that while parts of the tumor had been destroyed others escaped destruction but later took on active growth finally completely destroying the cicatricial tissue.

Aside from skin lesions the writer has treated a number of cases of carcinoma, including inoperable

carcinoma of the neck the liver the spleen the stomach and inoperable carcinoma of the rectum.

The principle of dosage to be remembered in all cases is that short doses stimulate while large heavy doses inhibit cellular growth. This fact has been demonstrated on seeds amœba and on living tissues.

In conclusion the writer expresses his conviction that the battle against malignant disease is not as confined and hopeless as is generally pictured. In many so-called inoperable lesions the combination of surgery with irradiation will prove successful.

JAMES T CASE

Schindler O Radium und Mesothorium Treatment of Malignant Tumors (Erfahrungen über radium- und mesothoriumtherapie maligner Tumoren) *Wse H B Auschr* 1913 xxv, 4 3 1463
By Zentralbl f d ges Gynak u Geburtsh s d Grenzgeb

The author has treated a series of malignant tumors of various kinds with large doses of radium and mesothorium reckoned in milligram hours, and gives a detailed report of his very favorable results. He shows the marked advantages of massive doses as compared with smaller doses. Radium and mesothorium are alike in this respect. The gamma rays of radio active substances have the advantage over roentgen rays of having a deeper effect and of being easier to handle. It is not necessary as the author shows by a case to always work with several hundred mg of radio active substance. The same results can be obtained by the continuous use of smaller doses for weeks at a time.

The favorable effects of post-operative irradiation are shown. He recommends the prophylactic irradiation of recovered cases to avoid recurrence and like Wickham and Degrais, recommends irradiation in connection with surgical procedures to improve the results. He believes the treatment of operable cases should be limited to superficial tumors, but that all others should be operated on first and then treated with the rays and that inoperable tumors should as often as possible be rendered operable by the use of the rays. In all cases where metastasis has taken place the rays can be used with advantage for the treatment of symptoms.

LEWIS

GYNECOLOGY

UTERUS

Von Hansemann D Precancerous Conditions
(Über präcanceröse Krankheiten) *Zisch f Geb tsch*
u Gynäk 1913 Irv 49
B Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

The cause of cancer is chronic irritation this irritation leads to the disease however only if there is an individual predisposition In order for cancer to arise there must be an anaplastic transformation in the character of the cell caused by the chronic irritation The greater the predisposition the shorter the period of irritation necessary to produce cancer Cancer after 60 years of age is rarer because the individuals with predisposition have died before that age There is no one single cause that applies to all cases of cancer there probably are cases where anaplasia is lacking and where the theories of Cohnheim Thiersch and Rubbert are not applicable

The precancerous diseases belong mostly to the group of chronic inflammations which lead to hyperplastic changes Other non-inflammatory hyperplasias that have such a tendency are polyps hypertrophy of the prostate goiter hypernephroma secondary atrophic conditions of the stomach with hyperplastic changes, especially in the region of the pylorus such as follow malaria syphilis and intoxications scar formation in the lower extremities (Bergmann) papillary growths in the rat's stomach from parasites (Fibiger) similar growths in the bladder (Loewenstein) transformation of stomach ulcer into carcinoma though not always as Aschoff justly claims scars from burns and rarely trauma is followed by the formation of carcinoma

It is the duty of the house physician to contribute to the clearing up of this question by noting all factors that might lead to the development of cancer such as chronic irritations trauma and other injuries Only in this way can we see the first act the precancerous stage of which we now see only the last act the cancer in the hospital

Vo Gm 77

Scherer A and Kelen B Treatment of Cancer of the Uterus with Röntgen and Radium Rays (Über die Behandlung des Uteruskrebes mit röntgen und radiumstrahlen) *Ter min Deutsche Naturf A Ärzte Wien* 93
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

The authors report 18 cases of carcinoma which have been treated since the beginning of February 1909 with röntgen rays since May 8 09 with combined treatment with röntgen and radium rays In Group 1 in which the treatment consisted of irradiation after operation to prevent recurrence

the authors have late reports from 58 of 77 cases the remainder mostly poor women from the country stopped after one or two treatments Ten of the 58 patients died of the others 5 are free from recurrence after three years 15 after two years 20 after one year and 8 after six months Compared with the earlier clinical data for cancer of the uterus this shows an improvement of 105 per cent in freedom from recurrence

In Group 2 röntgen treatment alone was used in cases of inoperable carcinoma since the beginning of 1910 In 103 cases of inoperable carcinoma of the uterus and 5 of carcinoma of the ovary the following cases are worthy of mention 24 cases under treatment for 1½ to 2 years showed a remarkable decrease in the local and general symptoms in 3 cases there was entire disappearance of the nodule there were 2 cases of complete recovery that have been under observation for more than three years 2 apparently inoperable cases became operable after treatment

Group 3 comprised 12 miscellaneous cases among them one cured case of actinomycosis of the ovary and one of cancer of the mammary gland In Group 4 a combined treatment of röntgen and radium rays was applied for 1 to 2 hours with weak filter in 14 cases in the early stages with no special results

In Group 5 there was combined treatment with röntgen and radium with strong filter and protracted application In 4 cases of inoperable cancer of the cervix after four months treatment there was a marked and in some cases complete disappearance of the tumor and a decided improvement in the general condition One case of carcinoma of the vagina and 0 of tuberculous ulcer of the cervix are still under treatment

In malignant tumors radium and röntgen rays should be used together their values being about equal If there is a palpable cancerous nodule radium should be applied directly to it The röntgen rays affect the infiltrations and metastases by a continuity that cannot be touched by the radium The authors have been working for more than two years with pure radium carbonate corresponding to 27 mg of radium bromide This relatively small amount of radium enclosed in a lead capsule 13 mm thick, must be left lying for days in the vagina The hardest β rays are present in the irradiations but they have had no unpleasant reactions To work with pure γ rays and a lead filter 3 mm thick does not seem to offer any advantages The authors believe that by choosing the right thickness of filter and combining the radium treatment with the vaginal and abdominal application of röntgen rays

valuable results can be obtained. The conclusion is of importance in view of the great numbers of patients needing radium treatment and the great cost of radium and mesothorium.

Cayhorra A: Uterus and Ovaries after Röntgen Treatment: Case of Ovarian Tumor after Hydrotid Mol. (Uterus und Ovarien nach Röntgenhydrotid Mol. Ovarialtumor im Anschluß an Hydrotid Mol.) Fort. d. Med. 1913, 22, 1037 (Möln). By Zentralbl. f. d. Gyn. 1914, 2, 20 (Geburtsh. u. Gynäkol.)

The author reports the case of a woman who was treated for 15 months for myoma of the uterus as the menses did not entirely cease and there were streaks of blood which disturbed the patient greatly. The uterus and a linea were removed. The right ovary was found to be adherent behind the uterus. The uterus had been very large during the treatment but contained a mucous myoma. Microscopic examination of the ovaries showed that on the left the graafian follicles were the primordial follicles were lacking and replaced by connective tissue. The right ovary did not contain any graafian follicles but showed numerous atrophic follicles.

The author concludes that in spite of large result of long treatment that a mucous myoma enough large to cause a typical location of the right ovary and that this is not waiting enough for the effect of the last series of irradiation. The operation was done in the case of a woman who four weeks after the removal of the uterus and ovaries presented an orange-colored tumor of the head. They were removed by operation and found to be a large cyst. Microscopic examination showed bundles of lutein.

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he is opposed to too great an extension of the field of operation as he has always been especially as regards the ureter embedded in a carcinoma. In such cases he prefers to free the ureter from adhesion rather than to remove it for excision as the latter has shown some very bad after results.

Carcinoma of the body of the uterus is much rarer and less malignant than that of the cervix. The parametrium is almost never affected though the pelvic glands are carcinomatous in 10 per cent of the cases operated on however the inguinal glands are seldom involved. From this he concludes that operation should always be through the abdominal route but chosen only when there is an absolute contra-indication for laparotomy. Myomectomy and carcinoma of the body of the uterus are frequently associated and in 2 per cent of all cases operated on for myoma he found carcinoma of the body and in 10 per cent of cases operated on for the latter condition he found myoma — this fact is significant in radiographic treatment. Metastases in the tubes and ovaries are frequent and turn in another reason for choosing the abdominal route.

With regard to the recurrence of carcinoma after more than five years Weibel has obtained the following results. Of 100 cases 13 or 13 per cent had carcinoma again after 5 to 7 years. One had a sarcoma. Among the 13 cases of carcinoma there was one cancer of the lung. The microscopic pictures of these three cases showed no difference from the pictures of the original carcinoma of the uterus that they can hardly be called recurrences. The recurrence cases 6 per cent — were undoubted recurrences in the wall of the pelvis then was no recurrence later than the seventh year. The percentage of recurrences lessens considerably and quite steadily from the first to the fourth year and remains constant for carcinoma of the cervix from the fourth to the seventh year. In carcinoma of the body there was no recurrence after the fourth year. The author believes therefore that for cervical carcinoma the period must be extended to five years.

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operable there being 22.5 per cent primary mortality after the operation 32.4 per cent recurrences and 25.4 per cent absolute recoveries.

CHILDE of Southsea, discussed some points in the technique of extirpation of the cancerous uterus which he considered important. He laid special stress on the preliminary curettage or cauterization of the coats of the tumor. He has constructed a special clamp for clamping the parametrium.

PUJOL y BRULL, of Barcelona always uses abdominal total extirpation by Wertheim's method and has obtained good results in seemingly hopeless cases. He puts sounds in the ureters during the operation. In all cases that recovered he has found large numbers of eosinophilic cells in the tumors.

RECASSENS of Madrid prefers the abdominal method and the most extensive field possible. He believes that vaginal hysterectomy should be used only in the very earliest cases.

DICKINSON of Brooklyn referred briefly to what he had said in the report of his method concerning the two suture ligatures in hysterectomy.

SUGI K. Lipoids in the Human Uterus (Über die Lipoid im menschlichen Uterus). *Ztsch f Geburtsh u Gynäk*, 93, 1911, 787.
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb.

The author examined 104 uteri for lipid substances also for the fat content in the epithelium, mucosa, muscularis and vessels. He found especially in the mucosa and muscularis, but also in the blood vessels droplike formations belonging to the lipoids. These were present at all ages but increased with age. In three pregnant uteri the fat content was not increased but rather decreased while in all cases of puerperal uterus there was a marked increase in the lipoids, which moreover showed double refraction. In myoma the fat content of the tumor was less than that in the parenchyma of the uterus. There were solid ring-shaped and sickle-shaped formations mostly intracellular and in the muscle cells lying near the poles. In eleven cases of different ages the author tried with various staining methods and microchemical reactions to determine the lipoids of the mucosa and muscularis more accurately. Pigment could not be demonstrated anywhere in the pregnant uteri there were some lipoids in the mucosa that were soluble with difficulty no closer identification was possible so the author believes that there were no pure lipid substances. The appearance of lipoids is the result of depressed vital function of the cells.

RITTSEN US

W. H. E. A. Some Diagnostic Errors in Differentiating Lesions of the Cervix. *P. M. J.* 94, 1911, 3.
By S. R. Gynec & Obst.

In reviewing the work of the Cancer Commission of the Pennsylvania Medical Society the author states that the society has decided to continue its work along the educational lines as heretofore and to this end it has enlisted the cooperation of the

universities, nurses training schools and the county medical societies in the work.

As the early signs and symptoms of cervical cancer are so few the commission recommends that a thorough examination be made of the part and if any doubt exists that the patient be kept under observation and repeatedly examined. Whenever there is bleeding and a watery discharge cancer should be thought of. While the causes of uterine bleeding and discharge are many and often transient they state with all positive emphasis that any irregular bleeding or suspicious discharge should under no circumstances be treated without making a careful digital examination. In doubtful cases a microscopical examination should be made of a small piece of the tissue.

Accumulate condylomata, erosion of the cervix and chancroids have been mistaken for the condition. In conclusion the Commission recommends that every married woman over forty years of age be examined at least once a year if not oftener.

EDWARD L. CORNELL

HILTSCHMANN F. and ADLER L. Study of the Normal and Inflamed Uterine Mucosa. Endometritis with Special Reference to Irregular Hemorrhage from the Uterus (Ein weiterer Beitrag zur Kenntnis der normalen und entzündeten Uterusmucosa. Die Klinik der Endometritis mit besonderer Berücksichtigung der unregelmässigen Gebärmutterblutungen). *Arch f Gynäk* 913, 1913.
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb.

While recognizing glandular hyperplasia of the mucosa the authors maintain that it is only an interstitial form of inflammation of the mucous membrane of the uterus characterized by infiltration particularly with plasma cells. They maintain in spite of all objections the correctness of their findings as to the cyclical changes in the normally menstruating woman. Abnormal changes in the mucous membrane are found as follows:

Where the period begins regularly but lasts an abnormally long time. In such cases in the post-menstrual period small collapsed glands are found in jagged rather than straight lines with an epithelium of several layers.

In irregular menstruation there is a change in the mucous membrane but it does not show the normal phases. The forms of glands characteristic of different phases are found together as a result of pathological function of the ovary.

Discharge is the only one of the trio of symptoms of endometritis, hemorrhage, pain and discharge that is present. It is not possible by curettage to so influence the reformation of a hyperplastic mucosa rich in glands that it will be less abundantly provided with glands. The abundance of glands in a mucosa is not the cause of the hemorrhage therefore the curettage of such a mucosa for bleeding is just as likely to fail as to succeed. Interstitial inflammation of the mucosa does not lead to hemorrhage the hemorrhage being due to a simultaneous inflammation of the ovary.

The authors maintain that changes in the function of the ovary also cause bleeding in retroflexion metritis, and myoma. They do not admit local causes for hemorrhage with the exception of mechanical irritations, polyps, submucous tumors, etc.

From their own and other authors work they conclude (1) Curettage can no longer be regarded as anything more than a symptomatic treatment. (2) There is still some doubt as to whether hemorrhage is caused by anatomical or functional changes in the ovaries. (3) Pain in endometritis indicates that the inflammation has passed beyond the boundaries of the uterus. (4) Only a purulent discharge is a sign of chronic endometritis. They deny the value of curettage for discharge in endometritis except in post-abortion cases. They are doubtful as to the good results of caustic treatment and say that the radical treatment of purulent discharge is as yet an unsolved question. *Archiv.*

Jaeschke R. T. Symptom Complex of the Climacteric and Its Relation to General Medicine (Der klimakterische Symptomenkomplex seinem Beziehungen zur Gesamtmedizin). *Prakt. Ergebn. d. Gynäk. u. Gy. Abh.* 9, 3 v. 275.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. s. d. Grenzgeb.

Under the climacteric symptom complex the author includes all local and general changes in the organism that take place at the period of transition from the age of sexual activity to that of sexual rest. He does not draw any distinction between normal and pathological conditions.

The beginning of the menopause is not the critical point for climacteric symptom; may exist for years either before or after this. The modern opinion is that endometritis has very little to do with the so-called climacteric hemorrhage, and in many cases there are no demonstrable changes in the genital organs. Arteriosclerosis is doubtless of great importance but according to Pankow's investigations no causal relationship has been established.

The author uses the term metropathia hemorrhagica climacterica only in cases where there are no demonstrable anatomical pathological changes, and attributes them to disturbances in internal secretion. He passes over the changes in the genital organs themselves and discusses conditions in the different organic systems so exhaustively that the work is not suitable for a brief extract. His discussions of the heart and blood vessels, metabolism, and the nervous system are especially important.

In conclusion, the author endeavors to give the etiology of the different symptoms and also gives a number of valuable points in regard to internal secretion. The gradual disappearance of the ovarian hormone causes a disturbance of function in the whole system of ductless glands, which persists until a new balance is established. If there was already any abnormality in the function of any of the other ductless glands the condition is complicated the disturbances are greater and the establishment of a balance takes a longer time. The

question is complicated by the fact that the secretion of one ductless gland increases certain functions of the other glands while it inhibits certain other functions. *RUEHMANN.*

Mayer E. The Intranasal Treatment of Dysmenorrhea with a Report of Ninety Three Cases. *J. Am. Med. Ass.* 914, Jan 6.

By Surg. Gynec. & Obst.

Mayer reports 93 cases of dysmenorrhea which were treated intranasally. Abnormal conditions of the nose were removed when present otherwise the spots of Fliess in the nasal mucosa, which Fliess terms genital spots which showed tumefaction and engorgement were cauterized either with the electrocautery or with trichloroacetic acid. The latter applied four times to the genital spots at intervals between menstrual periods is usually sufficient to obtain lasting results. The symptom-complex of premenstrual headache, nausea, and colic at the onset of the flow was completely relieved.

Of the 93 patients 12 did not report leaving a total of 81 cases reported on. 19 were not relieved, 14 were improved and 48 were cured. 1 in 60 per cent cured and 75 per cent benefited.

HENR. SCHWARTZ.

Dean, J. M. Operative Procedure in the Treatment of Uterine Displacement. *J. M. St. M. Ass.* 914 x 34. By Surg. Gynec. & Obst.

Dean discusses operative procedures employed in correcting retroversion and prolapse of the uterus. He first takes up the normal anatomical position of the organ and its relations, then discusses the relative uses of the Kelley, Mills, Baldy, Gilliam, and Alexander-Adams operations for retroversion. He advocates the Watkins-Wertheim operation for prolapse.

Dean thinks prolapse in tumors of the uterus is best treated by abdominal section, and transplanting the cervical stump between the recti muscles, as advised by Kocher. For prolapse of the vaginal walls following hysterectomy he advocates vaginotomy. *EVERETT CARY.*

Donaldson H. R. A Few Remarks on Uterine Prolapse. *J. M. St. M. Ass.* 914, Jan 302. By Surg. Gynec. & Obst.

The author pleads for more careful work in the after-treatment of obstetrics. His conclusions on the subject are as follows:

1. A hypodermic of morphine and atropine is recommended during the first stage in primiparae but he is opposed to its use in other stages and in multiparae.

2. The membranes should not be ruptured too early in fact unless there is some special indication they should not be ruptured until the bag of water presents at the vulva.

3. When forceps delivery is necessary there should be a more cautious and deliberate use of instruments than is frequently the case. A change

from long to short forceps in completing a mid forceps delivery is recommended.

4 When a laceration occurs a careful pains taking aseptic repair should be done

5 The patient should be cautioned against lying on her back during the entire confinement period, as this position encourages retroflexion which is usually the first step in prolapse

6 The use of a tight abdominal binder which also encourages retroflexion should be forbidden

A primipara should be kept in bed for one month and a mult para at least three weeks

8 For a period of at least six weeks after the patient is allowed to leave her bed she should be free from any unusual exertion standing upon her feet for any considerable length of time or the performance of any social duties whatever

9 An examination of the mother should be made in about two months after labor to ascertain the condition and position of the pelvic organs especially with regard to a lacerated cervix and whatever treatment may be found necessary should be promptly resorted to

EDWARD L. CORZELL

Byford H. T.: Choice of Operations for Retroversion when the Abdominal Cavity is Opened
Ches. W. Recorder 19 4 23v

By Zentralbl. f. d. ges. Gynec. u. Obst.

The author considers the Alexander operation for shortening the round ligament to be theoretically and practically the best but when the peritoneal cavity must be opened he operates as follows

The ligament is grasped near its exit from the internal inguinal ring and pulled towards the median line until it is taut. A slender 20 day catgut thread is passed through it about a centimeter from the internal ring and again about five centimeters from its uterine attachment and tied. The edges of the resulting loop of ligament are sewed so as to form a double cord the end of the thread being left projecting beyond its free end. The peritoneum is separated freely from the abdominal wall at the lower end of the incision laterally as far as the internal inguinal ring. With the point of a pair of slightly curved hæmostatic forceps the peritoneum is punctured from without inward about a centimeter mesally from the ring the thread is grasped and the loop is pulled through the puncture until all of the sutures are extraperitoneal. With a permanent suture the loop is attached at a point about a centimeter from its base to the under surface of the abdominal wall as near the inner ring and as low down as possible without risk of puncturing the epigastric or femoral artery. The pulsating arteries are easily felt and each step of the operation should be guided both by sight and touch. The loop is twisted half way around on its long axis and sewed with catgut along the abdominal wall toward the median line. The same is done on the opposite side with the other ligament and the abdomen is closed in the usual way. A small pessary is introduced to be worn for two or three months.

EDWARD L. CORZELL

Rissmann P.: One Hundred Cases of Ventrifixation of the Round Ligament by the Author's Own Method and 100 Alexander Adams Operations with Buried Silk Sutures Without any Recurrence (Über 100 Ventrifixationen der Lig. rotunda nach eigener Methode und über 100 Operationen nach Alexander Adams mit prinzipieller Ventrifixation von Seidenfäden ohne Rezid.) Zisch f. Geb. u. Gynäk. 1903 13 606

By Zentralbl. f. d. ges. Gynec. u. Geburtsh. d. Grenzgeb.

Rissmann's method consists in the fixation of the round ligament cut 5 cm from the uterine end to the abdominal wall with three silk sutures using Pfannenstiel's transverse incision of the fascia and spinal anesthesia. He thinks it is important to use silk rather than catgut. He has never seen any of the bad results that are commonly feared from buried silk sutures. His results with this method have been favorable; he had only one death from extensive adhesions. He never had symptoms of ileus and secondary hernia only once. Pregnancy and labor occurred in 17 cases without complications of any consequence. The indication for Alexander Adams operation seems to him to be in the possibility of correcting abnormal positions under spinal anesthesia. A modification of this operation suggested by Rissmann is the superimposing of the fascia. He had 100 cases without recurrence or hernia.

R. KÖHLER

Sigwart W.: Suture of the Great Pelvic Vessels in the Abdominal Radical Operation (Über die Naht der grossen Beckengefässe bei der abdominalen Radikaloperation.) Zisch f. Geburtsh. u. Gynäk. 9 3 1904 374

By Zentralbl. f. d. ges. Gynec. u. Geburtsh. d. Grenzgeb.

Since the first abdominal extirpation of the uterus for carcinoma by Freund in 1878 we have learned after splitting the broad ligament (Bumm 1905) to lay bare all the pelvic vessels from the point of bifurcation of the iliac to the obturator and the superior vesical, and to divide them as much as possible in cleaning out the parametrium and removing the glands. If injury does occur the resulting hemorrhage may be controlled not only by ligation but by suturing the vessels.

Bundles of carcinomatous glands are likely to be adherent to the walls of the veins, and so it is often difficult to avoid injuring the hypogastric vessel and the external iliac vein though the external iliac artery can almost always be avoided. A ligation of the hypogastric or even of the common iliac vein itself need not cause a long continued insufficiency of the venous outflow from the pelvis because of the formation of collaterals to the external iliac vein as well as to the vena cava through the vertebral veins.

The ligation of the hypogastric artery also has no serious consequences while the superior vesical artery should always be spared if possible in ligating the uterine artery, for fear of interfering with the nutrition of the bladder wall. The external iliac vein is frequently the seat of large packets of glands

but the danger of gangrene of the leg from ligating it was greatly exaggerated by Braun (1871) and Foldt (189) according to Wolff ligation of this artery led to gangrene of the leg in only 3 per cent of the cases

Braun and Müller have shown that with sufficient arterial pressure a venous collateral circulation is almost always created through the obturator and gluteal veins and the subcutaneous veins on the posterior superior part of the leg yet in injury to the iliac artery in situ would always be unavailing. This may offer great technical difficulties if the patient is corpulent woman and the vessels lie deep down in the pelvis or if vessel is injured not on its free upper surface but on one side

517

ADRENAL AND PERIUTERINE CONDITIONS

Dinnerreuther W T Corpus Luteum Organ Therapy in Clinical Practice with Report of a Case of Bilateral Salpingo-Oophorectomy in which the Administration of Corpus Luteum Extract Was Followed by the Reestablishment of Menstruation J Am M A 12 1919
By Surg Cynech & Ott

The internal secretion of the ovary is derived from the corpus luteum hence extract of the latter and not of the entire ovary should be employed. Among the therapeutic indication ovarian disturbance and inhibition of its function are common to all otherwise the use of the extract is nullified. The accessory symptoms following the administration of the freshly degenerated corpus luteum as laid down by Hurnam are adherent to an additional accessory symptoms namely rate of the extract must be obtained from various pregnant animal in constant operation of blood pressure is necessary as if it is prohibited further use. The rates of the extracted extract are equivalent to 10 gms of the fresh blood and contain a dose to be given three times daily or 10 gms daily at rarely necessary. If and as it may be used in amenorrhoea and in menorrhagia. Arian menstrua symptoms of luteum tumour, teratoma, absence of any pathological condition in the pelvis and hyperemesis of early pregnancy.

The author reports a case in which menstruation began next day after corpus luteum extract administered in large quantities. Symptoms of pregnancy were entirely absent.

Mitsch J Treatment of Disturbances of the Internal Secretion of the Ovary with Glanduovin (1) die Behandlung von Störungen der inneren Sekretion der Ovarien mit (Glanduovin) Berl M W A 1919
By Zentralbl f d ges Cynech Geburt u Gynäk

The author used a special extract from the ovary called glanduovin which he prepared from his

practical experience with this remedy he believes that the symptoms of either the premature or normal climacteric can be favorably influenced by it. He treated 25 cases successfully and 3 unsuccessfully. By menorrhoea due to hypofunction of the ovaries was cured by glanduovin in 33 out of 35 cases. In oligomenorrhoea and amenorrhoea he reports only one failure in 16 cases. One case out of two of leucorrhoea during pregnancy was favorably affected the results were doubtful in pruritus vulvae in pregnant and non-pregnant women. Hyperemesis gravidarum was improved in 9 cases out of 19. The injections were repeated daily until results were obtained two to four injections generally sufficing. The author believes the effect is due to the fact that the giving of hormones stimulates an increased production of hormones in the body.

RCV

Schickel G The Influence of the Ovaries on the Growth of the Breast a Study of Internal Secretion (Der Einfluss der Ovarien auf das Wachstum der Brustdrüsen. Beiträge zur Lehre der inneren Sekretion) Ztsch f Geburt u Gynäk 1919 121 133
By Zentralbl f d ges Cynech Geburt u Gynäk

Schickel reports cases of swelling of the breast in newborn girls of fetal menstruation of breast development in little girls in different stages of society of swelling of the breasts during menstruation and of bloody discharge from them and a case of menstruation during pregnancy. He also reports cases showing the influence of castration on the development and secretion of the mammary glands atrophy of the glands after castration and tells of his own and other authors' animal experiments with extract of the corpus luteum placenta and testicles. He also tells of his experience in regard to myometrial glands the possibility of developing milk secretion in the breasts of a primipara by placing an infant at her breast near the end of pregnancy the swelling of the breast after castration and the symptoms of the menopause. He says that the influence of the ovary and in many respects of the corpus luteum on the growth of the mammary gland should be determined as far as possible it is probable that other glands with internal secretion have a vicarious effect but this needs further proof.

Hörvitzky

Varaldo P R Experimental Research on Changes in the Ovary from Repeated Injections of Adrenalin (Experimentelle Untersuchungen über Eierstockveränderungen infolge wiederholter Adrenalin-Einspritzungen) Ztsch f Geburt u Gynäk 1919 121 133

By Zentralbl f d ges Cynech Geburt u Gynäk

The main contradiction in the results of experiments regarding the functional relation between the ovaries and the suprarenal glands led the author to study experimentally the effect on the ovaries of female dogs of subcutaneous injection of adrenalin. He used normal pregnant and castrated dogs and found that there was a perceptible decrease in

the size of the ovary and on microscopical examination this was found to be due to degenerative processes in the specific glandular parenchyma. There was a marked increase in the resistance of the animal to adrenal poisoning during pregnancy while that of the castrated animal was noticeably decreased. Therefore there must be an antagonism between the cortical substance of the suprarenal gland and that of the ovary. **HART**

Evlar Autoserotherapy in a Case of Malignant Papillary Cyst of the Ovary (A toserotherapie bei einem Fall von malignem papillärem Ovarialcystom). *Beit N. B. Chir.* 1931, 3, 1, 3008.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. d. Grenzgeb.

Evlar operated three years ago on a patient with a malignant cystoma that could not be removed radically on account of extensive adhesions. After emptying out about ten liters of a turbid fluid the cyst still contained about 4 liters accordingly a small opening was made and the cyst sutured into the subcutaneous connective tissue so that the contents would be poured out into this tissue. In the course of the following three years the patient had to be punctured three times but her general condition which was very bad before the operation improved to a marked degree. **Z. 15-222**

Kosmak G. W. The Role of Ovarian Disease in the Production of Sterility. *N. Y. St. J. Med.* 913, 22, 618. By Surg. Gynec. & Obst.

In this preliminary contribution to the study of the role of ovarian disease in the production of sterility Kosmak has drawn some tentative conclusions based on an analysis of 45 cases of his own and other surgeons. He believes we have much to learn of the physiology, pathology and treatment of sterility in women. Though malformations and malpositions are important among the causative factors he believes their importance has been overestimated.

As to ovulation he says: In respect to the time at which it takes place in relation to the menstrual periods we are still more or less in ignorance and whether each menstrual period is necessarily accompanied by the discharge of an ovum cannot be stated conclusively. It is presumed a follicle ruptures at each period, but whether this occurs in each ovary alternately has not as yet been demonstrated nor do we know whether successive follicles ripen and rupture during successive months in a healthy ovary when the other is diseased. The only presumptive evidence pointing to this fact is that in the presence of a cystic ovary which does not functionate menstruation and apparently ovulation go on regularly.

He has further been impressed with the idea that although the menstrual function is apparently not inhibited in such cases a follicle does not always rupture on each occasion for in many instances where such disease of the ovary is present sterility is a frequent accompaniment.

He has been led to believe that marked cystic degeneration of the ovaries is the central and important factor in the production of sterility in certain instances, and he thinks it probable that the irritation and disturbance produced by the presence of such a condition would act as a bar to fertilization.

The author's conclusions are that the question of sterility in an otherwise healthy woman must depend on an aggregation of factors and that the entire pelvic contents must be subjected to careful study. In a certain proportion of cases however removal of a diseased ovary undoubtedly contributes to increased function in the other as evidenced by improved menses and the greater possibility of subsequent pregnancies.

It would appear that sex is not dependent on the side from which the individual ovum is derived and that whether the left or right is removed the proportion of sexes in subsequent children is about equal. **E. A. BILLARD**

Daude O. Sterility in Women; and Its Treatment by Baths (Über die weibliche Sterilität und ihre Badbehandlung). *Fortschr. d. Med.* 93, 1, 7.

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. d. Grenzgeb.

The author discusses first the general and local causes of sterility and considers cases caused by anemia and chlorosis, gout, diabetes and chronic intoxications as suitable for bath treatment. Of those due to local gynecological causes, balneo therapy can be used in mild degrees of infantism, hyperaesthesia of the genital organs and especially in chronic inflammatory processes in the uterus and adnexa. The baths that have the most extensive use are the carbonic and chalybeate baths which are recommended in almost all cases and which can be combined with massage and other physical methods of treatment. Brine baths, sometimes combined with the carbonic acid chalybeate ones can be used in inflammatory processes but they are to be avoided in states of excitement. In such conditions the author prefers mud baths at 36 to 38 degrees, which have a quieting effect. Besides full baths, sitz baths, sponge baths, and packs are recommended.

RUBEMANN

Reynolds E. The Principles Underlying the Successful Treatment of Sterility in Women. *N. Y. St. J. Med.* 94, 21, 4.

By Surg. Gynec. & Obst.

Reynolds divides the sterilities he proposes to consider into the three following classes: (1) Those due to persistence of underdeveloped or infantile organs; (2) those due to altered conditions in the secretions of the genital tract; and (3) those due to failures of ovulation.

He dismisses the first group with the brief statement that except for the renewed development which sometimes follows early marriage they are hopeless and no treatment can be recommended. The second and third groups are discussed at length.

INTERNATIONAL ABSTRACT OF SURGERY

508

Very slight changes in the genital secretions are enough to incapacitate the spermatozoa. Acidity of fermentation and pus in the secretions are fatal to its normal action. Increased viscosity of the vaginal or cervical mucus or abnormal rapidity of the current are unquestionably the cause of sterility in many cases. All or any of these preventive factors may and often do produce sterility in women having no symptoms of ill health.

The author believes there are at least two conditions of the ovary which inhibit ovulation and are usually remediable viz (1) persistent corpus luteum and (2) distention of the ovary by retention cysts, usually with thickening of its capsule.

As to the former the author recalls 7 cases in which large persistent corpora lutea were followed and in every case the operation was followed by the prompt appearance of pregnancy in a previously sterile woman. Frank Loeb Marshall Jolly and others have made extensive studies of the corpus luteum and Reynolds believes the consensus of opinion is that the presence of the corpus luteum inhibits pregnancy. This fact has long been recognized in the breeding of cattle and the removal of the corpus luteum is a standard and successful practice.

Concerning ovaries distended by retention cysts and with thick capsules the author believes they seldom ovulate at any rate they seldom contain corpora lutea. Though it might seem probable that enlargement would recur after removal of these cysts, the fact is that in Reynolds' experience such has rarely been the case and he believes this operative procedure has added largely to his success in the treatment of sterility.

When the cause for hostile secretions is to be found in general conditions such as hyperacidity produced by eating too much table salt or by other forms of general acidosis the remedy is found in general medical treatment. When the hostile secretion is the result of any of the many forms of secretions is the result of sexual instincts these habits must be set straight. Both purulence and hyperacidity may be bacterial and both indicate infection, and this must cover every crypt and fold of the vagina. Insufflation with powdered protargol with the patient in the knee chest position is the most efficient. Douching is ineffective. Obstruction in the cervical canal and anteflexion often need correction.

If examination under anesthesia shows enlargement of both ovaries of even small degree or palpability of even one tube it is probable that abdominal incision will be necessary. The author believes a few such cases may be relieved by suitable discussion of the posterior lip of the cervix and division of the anterior attachments of the cervix thus gradually helping conditions by improving drainage.

The technique of removing a persistent corpus luteum is simple consisting of expression of the corpus and suture of its base after incising the

edges. The treatment of retention cysts varies with their number size and location.

The keynote to the whole subject of the treatment of sterility seems to the author to be in a recognition of the fact that fertility is dependent on an extreme normality in so far as the physiological potency of the canal is concerned—a normality to extreme as to require great closeness of observation if the slightest alterations which are sufficient to upset it are to be diagnosed.

E. A. BRIDGES

Schottmüller H and Barfuth W: Etiology of Purulent Disease of the Adnexa (Zu Ätiologie der eitrigen Adnexitiden). Beitr. 9, 3, 1, 45. (Infekt. Kr. u. Imm.) 1913, fasc. 9, 3, 1, 45. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. 4 d. Grenzgeb.

Because of the extreme pathogenicity shown by anaerobic microorganisms in puerperal fever after delivery and abortion the authors attempted to determine how frequently these bacteria cause local purulent diseases of the female genitalia. They examined 89 cases bacteriologically removing the pus with a sterile syringe and making cultures for anaerobic and anaerobic bacteria. Statistics are given showing that the number of cases of disease of the adnexa caused by anaerobes is considerable and that the number of cases of salpingitis caused by gonococci is much lower than has hitherto been thought.

Clinically the anaerobes are of interest because it is they and the colon bacilli that give the pus its fetid odor. The authors believe that the infection takes place not from the uterine but from the endometrium. In a great number of cases they succeeded in finding the same anaerobic bacteria in the endometrium as in the pus from the tubes. The reason they could not always do this they think is because the germs in the cervical canal had already disappeared or been overgrown with other forms before suppuration began in the tube. They exclude infection from the blood although in some cases the same bacteria were found in the blood as in the pus. Delivery abortion and especially criminal operations predispose to the infection. In some cases of cervical gonorrhea the authors found no gonococci but anaerobic bacteria, in the pus from the tubes they think that this was not necessarily due to secondary infection.

Pure gonococcal infection of the tube shows the best prognosis, for gonococci soon die in the pus. There are no certain means of differential diagnosis between septic and gonorrheal processes. To determine the question of etiology they think bacteriological examination of the pus is almost entirely necessary. The treatment is almost entirely conservative. Vaginal puncture and the use of Perthe's aspiration apparatus decrease the duration of the disease. Leucocyte counts should be made and when the pus is sufficiently evacuated the leucocyte count which has been high sinks. The average duration of treatment was 40 days.

MARTIN

Mussatow N A Treatment of Chronic Gonorrhoeal Salpingo-oophoritis by Intra Uterine Injections of Argentamine (Zur Frage über die Behandlung der chronischen gonorrhoeischen Salpingo-oophoriden durch trauterne Injektionen von Argentamin) *Zentralbl f Gynäk* 1913 xxxvii 1470
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

The author reports the results of the treatment of chronic inflammations of the adnexa with intra uterine injections of 2 per cent argentamine. Of 11 cases treated from December 16 1911 to April 1 1912 5 were pyosalpinx and 12 double salpingo-oophorectomy. Of the 5 cases of pyosalpinx there was subjective recovery in all cases no pain on coitus and return of the orgasm. Objective recovery in 3 cases. Of the 12 cases of salpingo-oophoritis there was objective recovery in 11. From April 1912 to June 1913 128 cases were treated with similar good results.

The treatment causes an active hyperaemia of the whole genital system. Normal menses are often increased slight ones are not affected. The results were excellent in Zweifel's cases also only 5.5 per cent of them being operated on even including old cases with severe adhesions. Even cases that had previously had one or both tubes removed by laparotomy were markedly improved. *MCTT*

EXTERNAL GENITALIA

Pozonyi E A Case of Primary Carcinoma of the Vagina Operated Upon by the Dorsoperineal Route (Über einen dorsoperineal operiert Fall von primärem Schendekrebs) *Gynäk Rndsch* 1913 vii 661

By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

The author describes the case of a forty year-old woman a VI para with two abortions. For a year she had had a foul smelling discharge with no pain but accompanied by emaciation. On examination a nodular bleeding tumor was found in the upper two thirds of the posterior vaginal wall. There was extensive infiltration of the rectovaginal septum. Microscopical examination showed a basal cell carcinoma. The entire genital apparatus and the rectum were removed by the dorsoperineal route the rectum was amputated far above the rectal fold—the sphincter could not be spared because of the infiltration drainage to the peritoneum was established in front of the sigmoid colon and a rectal anus was formed. Six months later there had been no recurrence and the patient's weight had increased 10 kilograms. Because of the connection between the lymphatics of the posterior vaginal wall and those of the rectum when cancer occurs in the vagina all of the genital organs and the rectum should be removed. *G B M*

Hedén A Colloidal Sulphur in Treatment of Gonorrhoea (Über kolloidalen Schwefel gegen Gonorrhoe) *Dermatol Bl* 1913 93 i 003

By Zentralbl f d ges Gynäk. Geburtsh s d Grenzgeb

The author used colloidal sulphur in treating 10 cases of gonorrhoea in women. The treatment con-

sisted of irrigation of the urethra twice a day with a one to two per cent solution the cervix is touched twice a day with a 10 per cent solution and in cases of involvement of the vulva vaginal glands a 4 per cent solution is injected into them. In irrigation of the bladder there was often severe pain. The treatment of gonorrhoea of the uterus often had to be given up because of irritation. The bactericidal effect is considerable but not so great as that of the albumin silver combinations. *BLA CA*

MISCELLANEOUS

Schick I G: The Nervous Symptoms of the Normal and Premature Menopause and Their Relation to Internal Secretion (Die nervösen Ausfallserscheinungen der normalen und frühzeitigen Menopause in ihre Beziehungen zu inneren Sekretion) *II Ab d Neu* 1913 434

By Zentralbl f d ges Gynäk. Geburtsh s d Grenzgeb

Schickele reviews all that is known on this subject and while he gives his own opinions he also sets forth those of all other authorities. He regards these variable symptoms as toxic caused by over secretion of the glands antagonistic to the ovaries. Since the ovaries unquestionably have the property of decreasing blood pressure a rise in blood-pressure would naturally take place after they cease to function and this can actually be observed in most cases. The degree of this increase however is not in proportion to the severity of the disturbance. The fact that rise in blood pressure and symptoms of the menopause do not always appear is explained by the fact that other glands take over the function of the ovary of course constitutional differences in individuals also have their effect. The details of this interesting work must be read in the original. Therapeutically he recommends ovarian extract and is skeptical as to the value of implantation of a foreign healthy ovary and also of autoplasmic transplantation. *SRIC*

Claik J G and Keene F F The Relationship Between the Urinary System and Diseases of the Female Pelvic Organs. *S f Gy c & Obst* 94 xv. By Surg Gynec & Obst

Symptoms referable to impaired bladder function play an important rôle in the clinical history of many pathological conditions of the female pelvic organs. Because of its intimate relationship with the surrounding genitalia the bladder frequently participates in the adjacent pathology whether this be in the form of neoplasm infection or displacement.

The influence of pelvic pathology is by no means limited to the bladder but may directly affect the ureters and kidneys the resulting lesions being due to mechanical blockage or infection. On the other hand disease of the urinary system may exist coincidentally with that of the genital tract the one being entirely independent of the other so far as etiology is concerned. Hasty and inaccurate methods of examination may prompt the correction

of the minor gynecological abnormality when the lesion productive of symptoms lies solely in the kidney or ureter hence lesions of the urinary system may occur either as sequelae or complications of disease of the female pelvic organs. It is important to determine their exact nature before resorting to operation.

The solution of this problem cannot be gained from dependence upon symptoms alone whether the disease be primarily of the kidney or of the pelvic organs the subjective manifestations common to both are often limited to vesical symptoms. The relationship of the one to the other can be determined only by a thorough examination of the bladder, ureters, and kidneys. A routine cystoscopic examination in all cases presenting vesical disturbances, irrespective of the concomitant pelvic pathology should be an invariable rule.

Duffin: Fecal Tumor (Kottumor). Zentralbl f Gynäk, 1913, xxviii, 1291.
By Zentralbl f Gynäk u Geburtsh d Grenzgeb

A tumor the size of a man's head had been gradually developing for six months in an unmarried woman of 35 with various anomalies in the skeleton from an old fibrous osteitis. Diagnosis of malignant tumor was made and as the patient was rapidly growing worse laparotomy was performed. The tumor was found to be an enormously dilated sigmoid flexure filled with mucus secreted in the small intestine. It found to be very much contractile. Because of the bad condition of the patient the flexure was brought forward and as much of the feces as possible removed through a lengthwise incision the intestine was sutured in three layers and the abdomen closed. After 36 hours there were signs of irritation of the peritoneum and the formation of new tumors there for the abdomen was opened again and the upper Lambert suture was found to be covered with a limy substance. This segment of the flexure was taken forward and the next day was opened with thermocautery and several masses of feces removed. After that the intestine began to function and the patient gradually recovered. In this case the megacolon was caused by the extreme hourglass narrowing of the pelvic inlet, a condition being the longest diameter fifty years old and caused from constipation.

There were three possibilities in the way of operation on this case: (1) Incision primary suture of the intestine closure of the laparotomy wound (2) Resection of the large intestine (3) Formation of an artificial anus. The operation of choice would have been resection of the colon and churning off of the promontory but this was impossible on account of the patient's condition. **RICHARD.**

Drueck, C. J. Genital Fistulae in the Female.
Med Rec 914 123 5 By Surg Gynec & Obst

The author briefly discusses the question in all its phases. He recommends the following operation:

A flap one quarter of an inch larger than the opening is marked off on one side with a knife. The vesicovaginal septum is split and the vaginal mucosa is lifted leaving the vesical wall and areolar tissue intact. This dissection is carried to within one-eighth of an inch of the fibrous edge and the remaining tissue is used as a hinge to lay the flap over the opening like a patch. The size and shape of the flap must be determined in each case and must be large enough to cover the opening.

The next step is to split the vesicovaginal septum around the edge of the fistula opposite the side of the flap thus making another flap beginning at the edge of the fistula and hinging about three-eighths to one half inch back of the opening. To fasten the flaps in place fine catgut is inserted about one-quarter of an inch from the edge passed through the connective tissue deeply down to but not through the mucosa and curved back and out again on the same surface about one-eighth of an inch from the edge. Passing over to the other half of the flap of the opposite side the needle is entered in the fresh cut surface passed down to but not into the vesical mucous membrane then turned and brought out again on the cut surface back in the angle of the wound. It provides a broad surface for approximation and lifts the wound edge above the level of the bladder wall.

The fibrous opening is then closed but the flap of vaginal mucosa remains to be fastened. Fine catgut is then passed through the free edge of this flap carried over the wound, and into the fresh surface on the opposite side where it is passed into but not through the vaginal wall and brought out again on the vaginal surface. The stitches are placed about one quarter of an inch apart. This second flap closes the vaginal wound and reinforces the flap which closes the fistula. The two rows of stitches are each in the line of axis of the gina, but are not superimposed on each other. After the sutures are inserted but before they are tied the bladder should be thoroughly washed out. **FRANK L. CORRELL.**

Arzufocht, S. Röntgen Treatment in Gynecology. *Verh der Röntgenbehandlung in der Gynäkologie* Heft 1 u 2 113 114 115 116
By Zentralbl f Gynäk u Geburtsh d Grenzgeb

The author calls attention to the good results obtained from röntgen treatment in menorrhagia and metrorrhagia. In treating myomata with röntgen rays it is of primary importance to exclude disease of the adnexa. The first effect of röntgen treatment is a marked improvement in the general condition. Often severe hemorrhage recurs after a decrease in the hemorrhage and the size of the tumor. From his experience the author concludes that there is no substance in the ovary that affects the general health and is extremely sensitive to the röntgen rays and another that is less sensitive that affects menstruation. In his opinion, the best time for the application of the rays is before the menstrual period. **DOUGLAS.**

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Meyer R Inflammation as a Cause of Ectopic Decidua or Pardecidua (Die Entzündung als Entstehungsurache des ectopischen Decidua oder Para decidua) *Ztsch f Gynäk u Ch* 36: 103 1912

B Zerk tralbl f d ges Cynäk u Geb tsh d Grenzgeb

In a series of cases of ectopic formation of decidua from the literature and from his own abundant material Meyer shows that decidua formation outside the mucous membrane of the body of the uterus as in the ovary the ligament the tube the cervix and in cervical polyps as well as on the serous membrane of the peritoneum intestine and omentum and in adenomyomata and heterotopic epithelial inclosures owes its origin to preceding inflammation changes in the tissues and that the effect of hormones on certain tissues under these circumstances becomes evident where it would not otherwise take place

Grusdoff W S Extra Uterine Pregnancy (I: ge Beobachtungen bezüglich der Extra Implantation) *Pr B f Ch* 19: 3 1913

By Zentralbl f d ges Gynäk Geb tsh d Grenzgeb

The author gives his experience with the procedure in extra uterine pregnancy also. He comes to the conclusion that a positive reaction is to be regarded practically as a chance symptom of pregnancy which appears many times but often is not.

He discusses bilateral extra uterine pregnancy and gives the macroscopical and microscopical findings in an operation for it in which both the tubes and the appendix which was also in ovary were removed. The right adnexa in a sack which contained a well-defined placenta there was a cone shaped thickening in the isthmus of the left tube which contained clots of blood. Microscopically there was a marked difference between the two in the right tube villi were well preserved while in the left they had lost the epithelium and consisted only of a stroma showing hyaline degeneration. In only one place where there was a few well preserved villi. A marked decidua reaction could be seen in the wall of the tube. It was a case of bilateral tubal pregnancy which had begun on both sides at the same time but had been interrupted sooner on the left.

The third question the author takes up is torsion of the graafian tube. A case operated on by him showed that the torsion of hematosalpinx which had originated from an abort in a d was improving under conservative treatment led to encephalitis and renewed bleeding in the lumen and wall of the tube. Rupture of the wall which was already penetrated by villi did not take place because the

peritonitis that resulted from the torsion caused adhesions of the wall of the tube with the ovary and the anterior fold of the broad ligament. **BRAUDE**

Duff D Notes on a Case of Extra Uterine Pregnancy in a Rudimentary Fallopian Tube. *Lancet Lond* 1914 clx 71

By S R Cynec & Obst

The author reports a case demonstrating that a fallopian hemorrhage may result from a small apparently unimportant source of bleeding within the abdominal cavity. The patient when seen had for several hours had severe pain over the lower part of the abdomen and had passed her normal menstrual period by three days only. Her temperature was 99.1 and the pulse 110. Laparotomy disclosed a considerable quantity of free blood within the abdominal cavity. The right appendages were found to be absent and no trace of any artery or tube could be found. On the left side a mass rounded and fluctuant was felt and this at first was thought to be the gestation sac of an extra uterine pregnancy. The tube ovary and blood-clot were removed and were subsequently examined but nothing abnormal could be detected. The patient died about fifty hours after operation.

A post mortem examination showed that the right ovary was absent and the right tube was represented by a thick fusiform stump set on the top of the right cornu rather than in the normal line of the tube and the upper surface of this showed an area of blood clot quarter of an inch in diameter. This body appeared to be a tubal ovum. Microscopic sections of the thickening at the right cornu showed this to be a small deformed tube containing fragments of an early ovum—villi plasmodial masses and the characteristic wall of an early implantation cavity—obviously this was a case where the ovum had migrated from the left side. The cause of death was the hemorrhage which took place from the small vessels in the wall of the malformed tube. At the operation the site of the hemorrhage was not apparent. In a similar case the gestation area should be excised with a wedge shaped incision and the edges stitched together. **D C BALFOUR**

Btner A J Ectopic Pregnancy III. *Am J* 9: 4 1914

By S R Cynec & Obst

The etiology frequency and symptoms of tubal pregnancy are discussed from the author's viewpoint as observed by him while engaged in general practice supplemented by findings of the operating room laboratory and autopsy and based on conclusions from his personal observations together with a review of the literature on the subject.

He believes the primary etiological factor of tubal pregnancy is explained in the two early stages of embryonic development, i.e. the morula and the blastula stages and adds that the morula stage is normally required for tubal or extra uterine existence while the blastula stage is normally intended for intra uterine existence only.

Butner states that ectocyesis occurs much more frequently than is generally supposed by the average clinician and that one engaged in a general practice composed of all classes ought to see and recognize at least one ectopic pregnancy in every one hundred conceptions coming under his observation.

The cases are reported with one death from internal hemorrhage and one spontaneous recovery by formation of an abscess in the cul-de-sac which was later incised per rectum. The remaining three cases were operated and recovered one was tubal abortion and two tubal rupture.

Center II. Premature Separation of the Normally Situated Placenta (Karl Lige Löw ng d normal situierte Placenta) D r H St Petersburg 1913

By Zentrabi f d ge Cynäk u Geburtsh d Grenzgeb

The statistics collected by the author from the literature show that premature separation of the normally situated placenta occurs in 0.12 per cent of cases, his own cases show 0.17 per cent. Trauma is rarely the cause but more frequently the cause is shortness of the umbilical cord and rupture of the membranes at 11 more important cases are hydramnios, twins, transverse presentation, narrow pelvis and too strong pains still more important, renal changes with or without simultaneous changes in the placenta and placental decidua. In the diagnosis sometimes there are no demonstrable changes in the placenta and uterus frequently there is anæmic infarct and hemorrhage into the placental tissue. The placental tissue shows marked inflammatory and degenerative changes and sometimes there are inflammatory changes in the wall of the uterus, sometimes rupture of the peritoneal covering from overdistension of the uterus and acute and chronic kidney affections are shown in a series of cases. The changes in the liver are like those in lamp-

812
The mortality for the child was found to be 8.6 per cent in the cases from the literature from the author's own cases 8 per cent, the corresponding figures for maternal mortality were 3.1 per cent, place figures for maternal mortality takes place 22.1 per cent. The earlier the separation takes place the worse the prognosis. Hemorrhage from atony during delivery there is danger of hemorrhage from atony. In treatment it is impossible to use the indications vary with different cases. Rupture of the membranes is indicated in mild cases with good pains, in severe cases agonal or abdominal cesarean section is indicated. If there is severe hemorrhage from atony and conservative treatment is refused, extirpation of the uterus should not be too long delayed.

Glück L. K. The Hypophysis and Its Changes During Pregnancy (Über die Hypophyse im allgemeinen und ihre Veränderungen während der Schwangerschaft) KI -therap 11 28 1913 913 22, 709

By Zentrabi f d ge Cynäk Geburtsh d Grenzgeb

The author gives a detailed histological description of the hypophysis in 80 cases including men and non pregnant pregnant and puerperal women. In the poorly developed nervous part of the hypophysis the author could not demonstrate chromatin substance, he thinks the nervous part represents a rudimentary sense organ. The greater physiological importance of the glandular part is shown by its greater richness in thin walled blood vessels and the contact with the gland cell.

The glandular cells are divided into two groups, the chromophobic and the chromophilic and the latter are divided into eosinophilic and basophilic. The eosinophilic cells are most numerous, the basophilic next and the chromophobic least numerous.

During pregnancy the hypophysis increases in size and weight not because of increased blood supply, but because of microscopical changes in the glandular part which are most marked at the end of pregnancy and shortly after delivery. These changes consist principally in the appearance of a large number of clear chromophobic cells.

Glück does not believe however with Erdheim and Stumm that these are specific pregnancy cells but that they represent a hyperplasia of the ordinary chromophobic cells. He thinks these changes are due to increased functional activity of the ovary and that the hypertrophy of the hypophysis explains some of the clinical symptoms of pregnancy such as thickening of the bones of the face, swelling of the face and acromegaly.

Scherer A. Heart Disease and Pregnancy (Kaustisches zur Frage des Herzens und Schwangerschaft) Gynäk R ndsch 9 3 1913 695

By Zentrabi f d ge Cynäk Geburtsh d Grenzgeb

There were 57 cases of uncompensated heart lesions in 17,260 deliveries for the past ten years. Twenty two of them were delivered spontaneously, delivery was accomplished twice with version, twice with Champetier bags, followed by version and external action in head presentations, three times with external action and extraction with placenta previa, and transverse position, six times external action in breech presentation, twice perforation, twice artificial premature delivery and eight times induction of abortion. There were 11 deaths, 6 of which were attributed to heart disease alone, the others had kidney and lung complications.

Neu M. and Kell F. The Function of the Liver During Pregnancy (Zur Funktion der Leber in der Gravidität) M atsch f Geburtsh 6 3 1913 383

By Zentrabi f d ge Cynäk Geburtsh d Grenzgeb

The authors report the determination of sugar in the blood of normal pregnant and non pregnant

women Levulose was tested in 10 pregnant women in only 2 of the women was the assimilation of 200 gms of levulose followed by marked reduction in the urine Examination of the sugar content of the blood by Tachau's modification of Knapp's method showed there was a certain variability in levulose assimilation during pregnancy but they did not decide the question of how far the function of the liver and other glands was involved E. GRUBER

Harabath R: Hypertrichosis in Pregnancy (Über Cra id itshype trichosis) Gynäk Rndschau 1913 705

B Zentralbl f d ges Gynäk Geb t h s d Grenzgeb

Harabath as well as Slocum Begar and Halban counts increased growth of hair a one of the external symptom of pregnancy In a female dwarf rat dog the under side of whose body is ordinarily almost hairless he observed a growth of hair in two successive pregnancies especially on the abdomen and three or four months after delivery the abdomen was again hairless as before In a female pug hairless spot from which disappeared during pregnancy and reappeared again after delivery

He gives as a reason for this hypertrichosis the hyperæmia of the skin that takes place during pregnancy comparing it with the effect of linseed poultices and does not believe that it is due to a decreased secretion of the ovaries K

Ward F N: Report of a Case of Papillary Cystadenoma of the Ovary Complicating Pregnancy JI huen Mo th 9 4 1913

By Surg Gynec & Obst

The author reports the case of a null parous woman age 26 who was operated on for the above and apparently recovered The main symptom were abdominal pains mostly on the left side a tumor afterwards being found on the left side

Because of their peculiar mode of invasion fresh foci developing upon surrounding areas of the peritoneum until signs of pressure and obstruction occur and in late cases the pelvis and abdomen becoming so blocked by the papillomatous masses that it is impossible to remove them the author advocates the early removal of all ovarian cysts as soon as discovered and in conclusion states that early radical surgical measures should be instituted in all papillomatous of the ovary complicating pregnancy for the following reasons (1) The tendency of the growth to increase in size and during pregnancy the liability of fresh implantations upon the surrounding peritoneal surfaces (2) the possibility of some of the accident occurring to the cyst itself such as rupture or torsion of its pedicle (3) the danger of the tumor complicating labor by interfering with the normal mechanism by blocking the birth canal and (4) statistics show that the operation is attended with no higher mortality during pregnancy than in the periods Wm D Pinn

Puech P and Vanverts J: Tumors of the Ovary and Pregnancy (Tumeurs de l'ovaire et grossesse) Rev f a de med et ch 1913 243

Bj Zentralbl f d ges Gynäk u Geb rsh d Grenzgeb

A collection of 1316 cases observed since 1886 showed dermoids 27 per cent solid tumors 25 per cent Ovarian tumors decrease the probability of pregnancy In 12.5 per cent of cases miscarriages or premature delivery resulted from complications, size of the tumor or adhesion Pregnancy seems to increase the size of the tumors, only when they are malignant the reports show torsion of the pedicle in 17 per cent of cases in contrast to 5 to 14 per cent in non pregnant cases Torsion of the pedicle is especially apt to occur in small abdominal tumors rupture of the cyst in 3.5 per cent generally fatal the same is true of suppuration Pelvic tumors of the ovary interfere with birth by causing displacement of the uterus prolapse of parts of the foetus secondary insufficiency of labor pains or rupture of the uterus Birth is made possible by pushing aside the tumor or flattening it out or occasionally by delivery of the tumor through the torn vagina

Suppuration or torsion of the pedicle occurs often during the puerperium The tumor may conceal the pregnancy or the pregnancy the tumor Tubal pregnancy pedicled fibrous retroflexion of the pregnant uterus or hydramnios may cause errors in diagnosis Exploratory laparotomy may be decided if there are dangerous symptoms

The maternal mortality at present is only 6 per cent in contrast to 31.5 per cent in 1861 Abdominal tumors are more dangerous during pregnancy, pelvic ones during delivery The present rate of infantile mortality during pregnancy is 13.5 per cent while formerly it was 83 per cent

In the treatment of abdominal tumors during pregnancy ovariectomy is indicated during the first half for the sake of continuing the pregnancy and may be performed at any time for rapid growth of the tumor malignancy torsion of the pedicle rupture or suppuration For pelvic tumors the tumor may be pushed up ovariectomy may be done during the first half of pregnancy always through the abdomen During delivery in case of abdominal tumors, forceps version and artificial dilatation of the cervix are permissible Pelvic tumors may be pushed up with the patient under anesthesia in the knee elbow or Trendelenburg position Cysts may be punctured Incision of the cyst from the vagina is dangerous as it may cause inflammation suppuration of the cyst or peritonitis Ovariectomy followed by spontaneous delivery or forceps may be done For extensive adhesions or impaction of the tumor cesarean section followed by ovariectomy is indicated though this may be contra indicated by malignancy difficulty of extirpation or bad condition of the patient

Artificial delivery of the placenta is indicated only when the tumor interferes with its natural delivery Laparotomy is dangerous during the puerperium and should be done only when abso-

INTERNATIONAL ABSTRACT OF SURGERY

lutely necessary. Lutein cysts in conjunction with hydatidiform mole which are not infrequent generally disappear spontaneously. *Moss*

Winter: Active and Conservative Treatment of Eclampsia (Aktive und Konservative Eklampsiebehandlung). *Monatsschrift für Geburtsh. u. Gynäk.* 93 xxx 11, 346
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Winter has recently treated the cases at his clinic exclusively by blood letting and Stroganoff's method in order to make a comparison with his preceding method of immediate delivery. Thus far he has the impression that this comparison will not result favorably to immediate delivery though he still thinks this is superior to any other method for very recent cases. He believes that the results obtained by early vaginal caesarean section would be more favorable if it were possible to group the cases accurately as Freund proposes according to the duration of the disease. But this can hardly be done for the first attack does not mark the beginning but a rather advanced stage of the disease. He thinks it is a mistake to reckon the puerperal eclampsia with the early deliveries as Lichtenstein proposes. These have already passed through many hours of intoxication which for some unknown reason has not manifested itself sooner. Winter believes the pains have a very harmful effect.

He chooses from his material the cases in which the first attack began at the very beginning of labor and from 92 cases gets the following results: 8 cases in which labor was not interfered with, 40 per cent mortality; 19 cases delivered after the os was dilated, 30 per cent mortality; 3 cases delivered late in the second stage by incision or metemesis, 25 per cent mortality; 34 cases delivered by early vaginal caesarean section, 9 per cent mortality; and cases delivered by caesarean section immediately after the beginning of the eclamptic attack, no mortality.

He believes that for the early cases caesarean section is still the best method of treatment while for cases where a long standing intoxication has made the results of immediate delivery uncertain Stroganoff's method should be preferred. *Zentralbl.*

Rouley A. J. A Preliminary Report on the Treatment of Toxemia of Pregnancy with Placental Serum. *Am. J. Surg. Gynec. & Obst.* 94
Serum. *Am. J. Surg. Gynec. & Obst.* 94

This report based on series of four cases of severe pernicious omittng of pregnancy and two cases of threatened eclampsia treated with placental serum. According to the histories four cases showed marked improvement. The author's treatment is based on the following theories:

1. The toxemias of pregnancy are secondary to some poisonous protein substances circulating in the maternal circulation which have their origin in the product of conception.
2. The composition of fetal serum albumin differs from that of maternal blood serum.

albumin. Under varying pressure in fetal and maternal systems fetal serum albumin enters the mother's blood by dialysis. It acts as an antigen and provokes the formation of antibodies. When fetal serum enters the mother's blood the union of this antigen with the antibodies leads to anaphylactic symptoms of which eclamptic convulsions are one. The severity of the toxemia will depend upon the amount of these substances in excess of the antibodies. *A. H. Schmitt*

Werner P. Bacteriological Examination in Febrile Abortion (Bakteriologische Untersuchung beim fieberhaften Abort). *Zentralbl. f. Gynäk. u. Geburtsh.* 1913 LXIV 48
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Forty five cases of febrile abortion from the second to the fifth month were treated actively with 36 uneventful recoveries, 80 per cent; 2 slight complications, 4.4 per cent; 3 severe complications, 6.6 per cent; and 4 deaths, 9 per cent. Examination of the secretion did not give any results that could be utilized clinically. Streptococcus hemolyticus in the secretion makes the prognosis somewhat more unfavorable. Among 11 cases showing streptococcus hemolyticus there were 2 deaths. But death is possible with non pathogenic bacteria in the secretion and uneventful recovery with streptococcus hemolyticus. Finding the blood once does not prove anything but finding them repeatedly indicates an unfavorable prognosis. Among 6 cases in which bacteria were repeatedly found in the blood there were three deaths, 1 severe complication, and 2 uneventful recoveries. The clinical rather than the bacteriological findings are decisive. If the infection has involved the uterine substance, its blood and lymph vessels and the tissue surrounding them, the prognosis is doubtful.

The question is not how to treat but when. The uterus must be emptied before the bacteria had time to extend. Propagation of the bacteria by emptying the uterus need not be feared. Among five cases in which the blood was found sterile before emptying the uterus bacteria were found in it afterward in three cases but they became sterile again after 24 hours. If the infection has passed the boundaries of the uterus, emptying the uterus is contra indicated and early surgical total extirpation is to be recommended. *Brown*

Werner P. Technique and Results of Simultaneous Abortion and Sterilization in Pulmonary Tuberculosis (Erfolge und Technik der simultanen Abortus-geruchhaft-sterilisierung und Sterilisierung bei Tuberkulose d. L. gen.). *Zentralbl. f. Gynäk. u. Geburtsh.* d. Grenzgeb. 93 LXIV 53
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

During the past two and one half years the above operation has been performed at Wertheim's Clinic 60 times. The patients were between the sixth week and fifth month of pregnancy and had active tuberculosis of the lungs or larynx or

inactive pulmonary tuberculosis with poor general condition or other complications. The method of choice in such cases is vaginal section emptying of the uterus and suture of the cervix pushing aside of the bladder and resection of the uterine end of the tube preferably without encroaching on the uterus. The procedure is easy and its advantages are that it accomplishes both purposes at one time avoids laparotomy and the mutilation is slight. Atomy of the uterus may be avoided by an injection of pituitrin or glandutrin-ergotin. There was one case of death from hemorrhage resulting from perforation of the anterior uterine wall the operation was successful in all other cases recovery occurring after 8 to 9 days. There was no immediate mortality from the tuberculosis. The mortality after a year was 4 per cent. and of 25 women who had had the operation performed more than a year before one died of tuberculosis. One felt thoroughly well, while 4 were troubled with chronic cough and expectoration. BIESE 27

Ludwig F.: Treatment of Abortion (Die Abortbehandlung). *P. kl. Erg. d. G. b. r. k. u. G. y. d. k.* 1913 v. 84.

By Zentralbl. f. d. ges. Gyn. u. Geburtsh. d. Grenzgeb.

Ludwig reports the material of the Bern Gynecological Clinic for the past ten years. Of 296 abortions outside the clinic 223 were afebrile 72 febrile of the former 4 per cent. showed slight rises in temperature during their further course. Of the febrile cases, the fever continued in 5 cases after the evacuation of the uterus only one showed severe complications there were no deaths. Of 326 clinical abortions 240 were afebrile 86 febrile of the former cases 0 had fever afterward 1 with complications. Of the febrile cases the fever disappeared promptly after evacuation in 63 14 had slight fever afterward 4 had severe complications and 3 died the mortality was 1.9 per cent.

The treatment is active digital and instrument al evacuation of the uterus conservative use of the curette is recommended. Besides early operation thorough disinfection of the genitalia with tincture of iodine is important bacteriological indications are not considered. Bo. 27

LABOR AND ITS COMPLICATIONS

Sellheim H.: An Important Difference between Normal Birth and a Difficult Delivery (Über einen wesentlichen Unterschied zwischen tüchtigen Geburten und schwierigen). *Beit. G. b. r. k. u. G. y. d. k.* 1913 v. 84.

By Zentralbl. f. d. ges. Gyn. u. Geburtsh. d. Grenzgeb.

The birth power (this expression better than expulsive power) consists in an element that molds the fetus and an pulsive element. The latter exerts force on the fetus from all sides and from behind. In artificial delivery the first element is lacking the individual parts of the fetus having no pressure exerted upon them as shown by sche-

matic figures in head and breech presentations. The head is really separated from the shoulder by forceps the shoulder stays back its delivery following more slowly than in normal birth. In pelvic presentations the pelvis is drawn forward by the forceps while the arms and also the face and chin hang back. Even a combination with expression does not get the same results as natural birth, for uniform pressure can not be exerted on all sides this is partially compensated for by the fact that all operative procedures induce birth pains. By utilizing these pains as much as possible disturbances of the normal condition of the fetus in artificial delivery may be avoided. KERMAT 28

Jardine R.: The Retraction Ring as an Obstruction in Labor. *Med. Press & C.* 1914 vol. 32. By S. R. Gynec. & Obst.

In the author's opinion the retraction ring forms several inches higher up than the internal os and he divides the cases into three groups according as the retraction ring forms (1) in front of the presenting head (2) above the presenting head or (3) in breech presentations.

In the first class the diagnosis is made by feeling the head well above the brim of the pelvis and finding the head cannot be pushed down the ring may be felt both through the abdomen and the vagina. In these cases if the child is alive he advises cesarean section and if the child is dead a craniotomy. The prognosis is good if the condition is recognized early before the mother is exhausted.

In the second class, if the patient is thin and on palpation the ring can be felt internal examination will show the head high up but not obstructed and on passing the fingers above the head the ring is felt in front of the shoulders. The author again advises cesarean section if the child is alive and says it will be necessary to divide the ring in order to deliver the head. If the child is dead craniotomy should be resorted to.

In the third class he advises that the patient be anesthetized and the physician's flattened hand be passed in front of the child until a foot is reached which is then swept upwards over the front of the child and brought down. When the leg is brought down traction should be made upon it while an assistant keeps up firm pressure upon the fundus of the uterus. If the arm is caught they must be relieved by sweeping them over the front of the child and the after coming head must be dealt with in the usual way. The prognosis is as good for the mother and child as in the average breech case that requires artificial delivery. W. D. P. 1915

Billet F.: Prolapse of Both Lower Extremities. *Beside the Head (vorfall beider Untere Extremitäten neben dem Kopf).* *Zentralbl. f. Gyn.* 1913 xxxv. 198.

By Zentralbl. f. d. ges. Gyn. u. Geburtsh. d. Grenzgeb.

The patient was a 30-year-old primipara with normal pelvic measurements. Fourteen months

previous she had had a miscarriage in the third month. Two days before admission to the hospital the membranes had ruptured, but she had continued to walk about the house after admission to the hospital she had strong pains for 24 hours and internal examination showed prolapse of the left foot which on being drawn down to the vulva was drawn back. Further examination showed the head in the posterior position between the two feet with the toes directed forward. Extraction was easily accomplished with Bresson forceps the child, weighing 2,500 gms was dead.

Distorted calls attention to the rarity of such an acrobatic position and cites von Franqué who mentions the prolapse of both feet beside the head as one of the rarest of obstetrical complications. The cause in this case was thought to be the early rupture of the membranes and the subsequent walking around as there were none of the other probable causes present such as multiple pregnancies, hydramnios, narrow pelvis, twin pregnancy or abnormalities of the uterus. He emphasizes the difficulty of diagnosis and also of delivery which must be accomplished by forceps or perforation. **BOUCEL.**

Gilbert H. Subcutaneous Emphysema of the Face Neck and Chest During Labor. *A. J. S. 1913 22: 1.*

By Surg. Gynec. & Obst.

Gilbert reports a case of the above occurring in a primipara with delivery of a stillborn child by forceps followed by the recovery of the mother. This condition is very rare and the general view held is that the condition arises from rupture of the air vesicles at the root of the lung. The air there fore escapes underneath the pulmonary pleura into the anterior mediastinum and so on underneath the cervical fascia up over the neck and chest. There are however some who believe that the condition is due to injuries to the respiratory tract higher up—for example, in the mouth and trachea. Judging by published cases the patients were invariably primiparae. There were in all cases considerable straining efforts made during the second stage. In a considerable number of cases pain is complained of and is very often situated about the region of the seventh or eighth rib. The outlook is good the patients invariably recover. If the pain is excessive during breathing the affected side should be firmly trapped as in fractured ribs. **W. M. D. PHILLIPS.**

Puerperium and its Complications

Schweitzer B. Prophylaxis of Puerperal Fever and the Bacteriology of the Vagina of Pregnant Women (Zur Prophylaxe des Wochenbettfiebers zugleich ein Beitrag zur Bakteriologie der Scheide Schwangerer). Leipzig Hirzel 1913.

By Zentr. Bl. f. d. ges. Gynäk. Geburtsh. d. Grenzgeb.

Puerperal fever from auto infection with bacteria from the vagina is recognized although previous

attempts at disinfection of the vagina have not succeeded.

Some experiments were made with 0.5 per cent lactic acid under bacteriological control. The secretion was rendered normal in 81.3 per cent of the cases in three cases only after 30 to 40 days. The cocci gradually disappeared and rods appeared. Only three cases showed streptococci till delivery after 15 to 25 days of irrigation. Lactic acid has a certain bactericidal power and the controls showed that of 27 cases with abnormal secretion irrigated for at least ten days only one had fever. From a larger material without bacteriological control and with only macroscopical examination of the secretion it was found that of 665 women only 7.67 per cent had fever while of 147 who did not receive sufficient irrigations 22 per cent had fever. In cases with normal secretion the clinic reports showed fever in only 7.45 per cent the secretion being really rendered normal by the irrigations.

Therefore the method is adapted for the prevention of puerperal fever. The necessity for such prophylaxis and the question of spontaneous infection is taken up and a case of death in the Leipzig clinic described, together with some others from the literature. The second part of the book is concerned with the biology of the bacillus vaginalis. Pure cultures on grape sugar agar showed confluent transparent colonies. There was facultative anaerobic growth, especially on acid media with reducing substances. It is closely related to other lactic acid forming rod shaped bacilli. Among the streptococci lacticocci were not pathogenic and were closely related to the streptococcus acidilactici.

HEIN UHSE.

Zweifel P.: Prophylaxis of Puerperal Fever Caused by Spontaneous Infection (Die Verhütung der durch Spontaninfektion verursachten Wochenbettfeber). *Zentralbl. f. Gynäk.* 1913 xxvii.

443
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

In spite of all methods of disinfection puerperal fever has not yet been conquered. However Zweifel thinks he has now found a means of accomplishing this. Lactic acid ferment is a part of the normal content of the vagina and pregnant women with an abnormal vaginal secretion have very little acid. Therefore in such women prophylactic irrigations of 5 per cent lactic acid were carried on for ten days. Under this treatment women with abnormal vaginal secretion were not troubled with fever any oftener than normal women the morbidity fell from 28.6 per cent to 6 per cent while in those with normal secretion it fell from 7.2 per cent. Twenty-one per cent of the women who had less than ten irrigations had fever. Schweitzer has shown that the vaginal flora changes in character under the influence of the irrigation.

Zweifel reports a case of a woman who died of puerperal fever and another who had a very severe case of it without any examination by the microscope he also

cites cases reported by Poter. The old saying that danger always comes from outside is not true but auto infection is not the right term. It is a spontaneous invasion of germs. The practical conclusion to be drawn is that the midwife should always report cases of abnormal vaginal secretion and the physician should treat them moreover in case of death from puerperal fever the midwife should not at once be blamed but all the conditions in the case should be carefully examined. KERNVOLLER

MISCELLANEOUS

Frankel L. Ovulation Conception and Duration of Pregnancy (Ovulation Konzeption, und Schwangerschaftsdauer). *Zisch f Geb rth u Gynäk* 1913 lxii 07
Bj Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

The changes preceding pregnancy and menstruation are caused by the corpus luteum therefore ovulation must precede menstruation. A fresh corpus luteum can generally be found 19 days at most before the beginning of menstruation. The exact day of rupture of the follicle cannot be determined differences in the sexual cycle and individual factors cause slight variations. The author found among 10,000 women 100 who conceived after a long period of amenorrhoea 74 of these without any menstruation intervening 35 after a single menstruation. He concludes therefore that impregnation follows immediately after ovulation not after the menstruation that follows it.

If these figures are regarded as decisive pregnancy begins a considerable time after the last menstruation and its duration is shorter than it has been considered heretofore. When the date was counted from the last menstrual period the greatest possible error in computing the age of the ovum was 4 weeks—that is, the time between the last period and the first one that was missed since the time of ovulation is taken as the beginning of pregnancy it is reduced to the interval between ovulation and menstruation. HAAK

Fetzer M. Studies of Metabolism in Pregnancy Based on Experiments on Pregnant Animals and their Fetuses, on Diets Rich and Poor in Iron (Studien über den Stoffhaushalt der Gravida nach experimenteller Untertung der Verhältnisse trachtiger Thiere und ihrer Frücht bei Eisenreicher und Eisenarmer Ernährung). *Zisch f Geburtsh Gynäk* 1913 lxii 54
By Zentralbl f d ges Gynäk Geburtsh d Grenzgeb

In rabbits which receive an abundant amount of ferratin during pregnancy there was a marked increase in the iron content of both mother and fetus but when iron was withheld from the mother there was a decrease in the iron content of the fetus. It seems possible therefore to exercise a certain qualitative and quantitative effect on the fetus through the mother's diet. In animals from which iron was withheld iron was taken from the mother's tissues to supply the fetus, in such an

extent that the mother sometimes suffered a deficit this however was only carried to a certain degree enough being retained to carry on the mother's vital functions. If iron was withheld to the point where the functions could not be maintained and iron still given up to the fetus the fetus died in utero. GILS

Abderhalden E. and Fodor A. Protect vs Ferments against Milk Sugar in the Blood Serum of Women During Pregnancy and the Puerperium (Über Abwehrfermente Blutserum Schwangerer und Wöchnerinnen, die auf Milchzucker eingestellt sind). *Mittheilungen med Wochenschr* 1913 l 1880

By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb
On the artificial addition of milk sugar to the blood protective ferments which are capable of altering the disaccharide appear in the serum. Therefore the authors instituted experiments to determine whether similar substances are to be found in the blood serum of women during pregnancy and the puerperium.

In 12 pregnant women at different periods of pregnancy they could demonstrate no protective ferment against milk sugar. In only one in the tenth month milk sugar was decomposed. Likewise among 10 patients during the puerperium the serum of only one decomposed lactose. The examination of the serum must be supplemented by that of the urine. BEVAKIO

Neumann J. Principles of Nutrition During Pregnancy (Über Ernährungsprinzipien während der Schwangerschaft). *Mittheilungen med Wochenschr* 1913 lxii 50

By Zentralbl f d ges Gynäk Geburtsh s d Grenzgeb
Factors of importance in the development of the fetus are inheritance, age of the woman, number of preceding births and for its size the age of the ovum at the time of impregnation. The nutrition of the mother abundant or limited fare, has in general no effect on the weight of the child. The author therefore denies the value of the Prochownik diet. There is however a deposition of iron, calcium and magnesium in the fetus blood from the umbilical cord is richer in these minerals than that from a retroplacental hematoma. It is well therefore to have an abundance of mineral salts in the diet during pregnancy as well as of fats, for the latter are retained by the mother for use during the period of lactation. In the second half of pregnancy it is well to limit the albumin in the diet because of the danger of eclampsia. FRESENBERG

Cramer H. Hydrannion from Deficient Absorption of Amniotic Fluid (Hydrannion infolge mangelhafter Resorption des Fruchtwassers). *Mittheilungen med Wochenschr* 1913 lxii 35
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

Under normal conditions not much urine is passed by the fetus into the amniotic cavity. The am

notic fluid is normally disposed of by swallowing. The large quantities of fluid swallowed by the fetus pass through the intestinal wall into the fetal circulation and from there into the mother's system. If there is any hindrance to swallowing by hydranios may arise. This is why hydranios is so frequently found associated with stenosis of the esophagus or duodenum, anencephaly or cerebromeningocele or extensive fissures of the spinal cord where the swallowing reflex is disturbed by defective development of the nervous centers. The author describes a case of extreme hydranios in which the child died after a few respirations. The protruding lower jaw was pressed firmly against the posterior wall of the pharynx; there were no lingual hairs, epidermal scales or any constituents of the vernix caseosa in the infant's intestinal tract. Further cases of this sort would confirm the correctness of his theory. FRAU BERG

Thierry H: Electrical Irritability in Pregnant Women. (Untersuchungen über die elektrische Erregbarkeit bei Schwangeren.) *Ztsch f Gynäk* 1913, lxviii, 21.
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

The author carried out experiments on the median nerve of the right arm in 110 women 70% of whom were pregnant. The results are as follows: (1) On electrical examination of 20 pregnant women in the ninth and tenth months she found an increase in the electrical irritability in 80 per cent. (2) This increase reaches the highest degree shortly before delivery in 60 per cent of the cases it was within stimulating limit but in 12 per cent it reached the height observed in tetany. (3) Even in women whose nervous irritability was not increased during pregnancy there was an increase during delivery. (4) During the puerperium the irritability decreased and gradually disappeared. H AU

Erdheim S: Hypertrophy of the Mammary and Accessory Breast Glands During Pregnancy. (Über die subkutane Hypertrophie der Mamme und der Akzessorischen Brustdrüsen.) *Monatsh f Geburtsh* 1913, xvi, 57.
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

Abnormal hypertrophy of the mammary glands may be due to puberty or pregnancy. The author reports one case of each kind. In a 1 year old girl one year after the beginning of menstruation the breast is developed rapidly to the size of a man's breast and the body became greatly emaciated. The growth stopped spontaneously after a year and a half and the emaciation gradually disappeared. Hypertrophy during pregnancy begins with the pregnancy and the growth is much quicker. The following case is described:

A 22 year old patient had become pregnant three years before and abortion was induced because of the enormous growth of the breasts and an accessory breast gland on each side. The swelling then disappeared. With the beginning of the second pregnancy

there was an excessive increase in the size of the breasts with great pain and abortion was performed again with the same results. A piece was excised and microscopic examination showed that the structure was like that of a normal gland in a pregnant woman.

Twenty cases have been reported in the literature seven of which were examined microscopically. Internal treatment and compression have been unsuccessful, the radical treatment being the removal of both mammary glands which has been done several times. Artificial abortion is also justified if the patient is too weak to bear removal of the breasts or if she refuses it on account of the deformity which would result. HITZOR

Heynemann T: Position of the Heart and Diaphragm During Pregnancy. (Herz und Zwerchblatt während der Schwangerschaft.) *Ztsch f Geburtsh u Gynäk* 1913, lxv, 854.
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

At the end of pregnancy the diaphragm is practically always displaced upward. The amount of this displacement varies in the author's roentgen pictures from 10 to 4 cm. the average being 2.11 cm. This causes a transverse position of the heart and a bend at the entrance of the great vessels. In his cases the transverse diameter was increased 0.7 to 1.2 cm. with an average of 1.79 cm. There are marked individual differences but it was not possible to distinguish two different types according to the size of the thoracic and abdominal cavities. The displacements of the heart and diaphragm generally become noticeable in the eighth month of pregnancy causing an increase in the heart's work at the end of pregnancy. However the respiratory movements of the diaphragm which are apparently little affected support the heart in its increased work. The high position of the diaphragm probably has the same effect as it secures a better emptying of the heart which results in an increased volume of blood at each beat. The cause of the accentuated murmurs during pregnancy is the bending of the pulmonary artery. These murmurs are frequently stronger in deep expiration or appear only at that time and they disappear when the puerperal patient or sometimes even when the pregnant patient lies up. The heart and diaphragm therefore assume a position to meet the increased demands of pregnancy with increased activity. The author's observations tend to confirm the conception of pregnancy as a physiological process. Rr. G.

Nagy T: Malignant Degeneration of the Epithelium of Malignant Chorionic Villi. (Über maligne Entartung der Epithelien primär verschleppter Chorionzysten.) *Beitr. zur Frage des malignen Chorionepithelioms.* *Jahrb f Gynäk* 1913, 470.
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

When the path had origin of malignant chorionepithelioma and the apicality of the chorionic epithelium in malignant degeneration were discovered

chorio-epithelioma was classified as a malignant epithelial blastoma. Later investigations however revealed peculiar properties of the epithelium of the chorionic villi. Groups of foetal cells endowed with a capacity for uncontrolled proliferation were found in the maternal tissues at a great distance from the placenta. This invasion of chorionic villi is peculiar in that the cells show different physiological reactions and staining capacities so that it is difficult to distinguish syncytial and Langhans's cells but Meyer demonstrated the relationship of these cells with those of the placenta. The physiological epithelial cells of the chorion differ very much in morphology so a characteristic morphology could not be demonstrated.

Malignancy of the epithelial cells of the villi can be diagnosed only with the aid of clinical examination by Marchand's method but if clinical symptoms are waited for operative interference is often too late. Meyer's method which is sometimes effective consists in removing some of the muscular tissue by curettage and examining it to see how much destruction has been brought about by the foetal cells thus determining their malignancy. But in so doing it must not be forgotten that the normal foetal epithelium exhibits a considerable degree of histolysis, and a greater knowledge of the destructive action of the normal cell must be gained before we can distinguish malignancy with certainty.

The author describes a case of his own which showed signs of malignant degeneration on account of which he removed the uterus through the vagina. He gives a detailed description of the histological specimens from the case their significance and the possibility of the chorionic villi undergoing malignant degeneration. VON MEYER

Broca, A. Francois, R. and Bize. Periosteal Dysplasia and Multiple Intra Uterine Fractures (Dysplasie périostale et fractures multiples). *Rev d'orthop* 9, 3, 389.
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

The authors distinguish three groups of congenital bone defects viz congenital rickets achondroplasia and what they call periosteal dysplasia. The latter is distinguished from achondroplasia by the fact that the compact substance of the diaphyses of the long bones, clavicle bones of the hands and feet and ribs, is replaced by spongy tissue without any abnormality in the ossification of cartilage. They describe such a case in a child six weeks old in which there were multiple fractures of all the extremities and macroscopically as well as histologically there was great similarity to a very far advanced case of rickets. WEBER

Ahlström E. Momburg Method (Über die Anwendung der Momburgschen Methode). *Vord med* 4, 3, 161.
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

The author gives a detailed report of 7 surgical and 246 obstetrical cases from the literature and two

obstetrical cases of his own as a supplement he gives experiments on rabbits and dogs with registration of the blood pressure while the constriction was applied.

He concludes that Momburg's method of compressing the aorta by tying a rubber tube around the abdomen is very effective if properly used. The disappearance of the femoral pulse is used as a control and it not only causes cessation of hemorrhage directly but it also induces contractions of the uterus which overcome atonic hemorrhage and hasten the delivery of the placenta often manual extraction of the placenta can be avoided. There are some disadvantages attending this method for instance great variations in the blood pressure heart failure arteriosclerosis and nephritis must also be looked out for. There is danger of injuring the intestine in surgical cases and sometimes pain is caused but this can be overcome with morphine. Especial care must be taken in removing the tube on account of the sudden fall in blood pressure. It should always be done in the Trendelenburg position with the legs raised and bound with tubes or elastic bandages which should not be removed until some time after the abdominal tube has been removed. K. HOFFMANN

Samuels J. Three Cases of Development of the Foetus Outside the Chorion (Über extrachoriale Frucht twickl g im Anschl an drei Fälle). *Ztsch f Geburtsh Gynäk* 19, 3, 129-63.
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

Development of the ovum outside the chorion is rather rare but it has a clear-cut clinical and anatomical picture. It is similar to the cases that have been described of development of the embryo outside the amnion and is distinguished from it by the stage of development at which rupture takes place. In development outside the amnion the disturbance takes place before the amnion has become adherent to the chorion that is before the beginning of the third month of pregnancy. Development outside the chorion occurs before the parietal and the reflex decidua have become adherent but probably after the adhesion of the chorion and amnion in the third or fourth month of pregnancy. Rupture in the later months with undisturbed development of the embryo inside the membranes occurs after the adhesion of the parietal and reflex decidua that is in and after the fifth month but it is not markedly distinguished from extrachorionic development.

The clinical picture called hydorrhoea gravidarum or decidualis is a rupture taking place in the later month of pregnancy often far above the internal os. The author proposes instead of this term to use rupture of the membranes in the later months or hydorrhoea with undisturbed development of the foetus inside the membranes. The cause of the rupture has been sought in endogenous and exogenous disturbances it is probably sometimes due to artificial interruption of the

pregnancy After the amniotic fluid is discharged the birth does not take place because the uterus adapting itself to the new conditions shows a sort of indolence such as is observed in missed labor and missed abortion. The study of gross and microscopical specimens does not give any definite information as to where the fluid is produced. The origin of placenta mirabilis in cases of normal intramembranous and of extrachorionic development is to be attributed to disturbances in the physiological implantation of the ovum. *St. Louis*

Krukenberg R.: Can Retroplacental Blood and Blood from the Umbilical Vein be Used to Diagnose Maternal and Fetal Syphilis by the Wassermann-Neisser-Bruck Complement Fixation Reaction (Und Retroplacental und Uteral venenblut zur Diagnose der mütterlichen bzw. kindlichen Syphilis durch die Wassermann-Neisser-Bruck'sche Komplementfixationsreaktion verwendbar). *Fischer'sche Wochenschrift für Gynäk. u. Geburtsh. 1913, fasc. 431.*

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

Serum from retroplacental blood cannot be used alone to determine the Wassermann reaction and decide whether the mother has syphilis for it gives a positive reaction in 30 per cent of apparently healthy women. This percentage increases in cases of pathological delivery to 30.5 in protracted labor and in abnormally severe labor pains, to 46.1 in eclampsia intra partum and post partum and in difficult or abnormal delivery of the placenta without syphilis to 55.5. Anesthesia of the mother fever or loss of blood to over 500 gms. in the post partum period do not noticeably increase the number of positive reactions with retroplacental blood. If retroplacental blood is used and the reaction is positive another test should be made with blood from the arm veins. It would not be necessary to puncture the arm vein in the negative cases. The positive reaction with retroplacental blood is probably due to the presence of albumin lipoid combination originating in the placenta.

Blood from the umbilical vein of healthy children of healthy mothers as a rule gives a negative Wassermann reaction. It is positive only in hereditary syphilis never if syphilis is not present in eclampsia of the mother in premature delivery antesthesia, protracted labor hemorrhage or other abnormalities post partum nor yet in deeply asphyxiated or stillborn children. A negative Wassermann reaction from the blood of the umbilical vein does not exclude a fetal syphilis acquired at birth nor does it exclude a hereditary syphilis.

In all these cases the serological examination of the child should be repeated several times at long intervals. The negative Wassermann with umbilical vein blood is changed to a positive when extract of placenta is mixed with the blood in only 5 per cent of the cases; in the other 95 per cent it remains negative. Neither the reaction changed by mixing amniotic fluid with the blood. In spite of the limitations mentioned above blood from the umbilical vein is well adapted for making the

Wassermann test for syphilis of the new born and its use is recommended in all cases in hospitals and in those in private practice where there is any suspicion of syphilis in addition to the serological testing of the blood from the veins of the mother's arm. *Rt. Cr.*

Schmid H. H.: Increasing the Size of the Pelvis by Resection of the Promontory (Über dauernde Vergrößerung des kinderrnen Beckens). *Verhandl. d. d. Med. Ges. in Wien 1913.*
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

The author reports eight cases from the obstetrical clinic in Prague in which resection of the promontory was performed. This new obstetrical operation which was devised by the author and Rotter of Budapest independently consists in chiseling off the greater part of the fifth lumbar and the first and second sacral vertebra by the trans peritoneal route. In this way an increase of 1.5 to 2 cm. is easily obtained in the anteroposterior diameter. The operation offers no technical difficulties, the bleeding from the bones being slight.

In seven out of the eight cases the operation was performed in connection with cesarean section for relative indications. One of the seven died of peritonitis, which was to be attributed to the laparotomy rather than to the resection of the promontory. The eighth patient had already had a cesarean section and a stillborn child and in the fourth month of her third pregnancy the resection was performed. At the end of her pregnancy she gave birth to a mature child which because of a transverse position and prolapse of the cord had to be delivered by version and extraction; the head was easily delivered.

This case proved for the first time that resection of the promontory secures permanent increase in the size of the pelvis. The operation is therefore the only rational treatment for narrow pelvis.

Fränkel L. Delivery After Uniting a Double Uterus by Operation (Geburt nach operativer Vereinigung doppelter Gebärmutter). *Berl. M. W. H. 1913.*

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

A patient had had three miscarriages and premature delivery of non viable children. Examination showed duplication of the genital organs. The body of the uterus was completely separated, the cervix was united but there was a median partition separating it into two halves and there was also a septum in the vagina. The patient was very anxious to have a living child and as neither of the halves of the uterus was capable of producing one Fränkel undertook to unite them by operation. He excised the septum of the vagina and cervix through the vagina by laparotomy excised a wedge from each of the uteri and sutured the two together so as to form a new uterine cavity. There was an uneventful recovery and two years later the patient had a normal child weighing 6 lbs. delivered spontaneously at normal term. *Zi. 1914.*

GENITO-URINARY SURGERY

KIDNEY AND URETER

Mayo W J: Accidental Injuries to the Descending Portion of the Duodenum During Removal of the Right Kidney *J Am Med Ass* 1914 121 343
By Surg Gynec & Obst

The anatomical relations of the retroperitoneal portion of the duodenum are such that this organ may be injured during operations for the removal of the right kidney. Such injury however can only occur if there be infiltration about the pedicle which has caused close adhesion to the duodenum. The duodenum in its descending course overlies the pedicle of the right kidney and a considerable portion of the lower half of that organ on the inner side. As this portion of the duodenum is retroperitoneal and more or less fixed in position one can readily understand how the accident might occur under such circumstances. The exact relationship of the duodenum to the right kidney depends on the mobility of the latter organ which lies somewhat lower than the left kidney and is more or less movable normally.

Infection and ulceration of the pelvis and secondary involvement of the connective tissue in the pedicle leads to fixation and shortening of the pedicle together with adhesion to the neighboring viscera on the right side and sometimes to the duodenum in its retroperitoneal portion. In such cases subcapsular nephrectomy is adequate but if the fixation is due to carcinoma of the pelvis the kidney and capsule with the pelvis and a sufficient portion of the ureter must be removed and it is in these cases that the duodenum will be endangered even by the most expert and careful surgery. The injury is usually caused by heavy toothed forceps which are applied hurriedly to check a sudden hemorrhage from loss of control of the pedicle of the kidney—the vena cava is often injured in the same manner. The fingers are a safe substitute for forceps to temporarily check the bleeding. Vessels the size of the renals safely jump into the fingers and can be held until the non biting forceps can be safely applied. As a rule the injury to the duodenum is not manifested for several days. The injured part becomes necrotic and a duodenal fistula of a most distressing type results which will often if not usually cause the death of the patient.

With an adequate incision for the removal of the kidney such as has previously been described by the author injuries to the duodenum or failure to secure the vessels accurately will seldom occur. Division of the structures behind the twelfth rib combined with transverse incision mobilizes the lower wall of the chest and with the patient lying

on the loin of the opposite side well elevated in a saddle nephrectomy has been made a safe procedure because it is done under the eye.

What can be done to repair the damage when a duodenal injury occurs is the crux of the problem for as a rule the injury is not made manifest until several days after the operation. The character of the fistula does not lend itself to spontaneous healing the gastric intestinal pancreatic and biliary secretions in combination rapidly enlarge the opening irritate the skin and exhaust the patient. In such cases a transperitoneal attack on the fistula should be made and the descending duodenum lifted from its bed. The opening should be sutured and a flap of peritoneum or omentum transplanted across the suture line and finally a jejunostomy should be done for temporary feeding purposes.

Rosenblatt J and Margoules Pyelography (*Zu Pyelographie*) *Verhandl d deut Gesellg Gynäk u Geburtsh* 1913 8
By Zentralbl f d ges Gynäk u Geburtsh s d Grenzgeb

A 45 year-old patient had pain in the left kidney region and hinking of the ureter was suspected therefore 40 ccm of a 5 per cent solution of collargol was injected without any difficulty. While the roentgen picture was being taken she suddenly collapsed and died after 15 hours. The diagnosis of rupture of the pelvis of the kidney was confirmed on post mortem. There was no collargol in the ureter.

Kidney pelvis but the cellular tissue around them at a distance of three finger breadths from the bladder was soaked with it. There was no tear visible either in the ureter or pelvis. Probably there was a very slight tear in the kidney tissue. Although on microscopic examination was not made it may be assumed that the collargol as in Blum's experiments on the cadaver was pressed out through the ruptured kidney tubules into the lymph spaces underneath the capsule.

Pyelography therefore should be carried out with the greatest caution. Where it is absolutely indicated Kummell's method is to be preferred.

KUMMELL

Fowler H A: Closed Tuberculous Pyonephrosis *J Am Med Ass* 1914 121 12
By Surg Gynec & Obst

While this condition would appear from the literature to be comparatively rare—Smirnow finding but twenty four cases reported—it is probably more common than reports show. Earlier cases studied without the aid of the cystoscope or ureteral catheter were rarely diagnosed before operation. Even by the newer methods pre-operative diagnosis

may be very difficult. there may or may not be a lumbar or abdominal tumor depending on whether renal distension is present or the atrophic organ has become fibrous and much contracted.

The author describes the pathology of the condition, and the effects on the perirenal tissues, in which there is usually more or less fibrous deposit obscuring anatomical landmarks. Occasionally secondary abscess formation occurs—in one case simulating psoas abscess. Smurrow divides the cases into the following three clinical groups:

1. In the first the bladder is tuberculous the ureter on the diseased side is impermeable and in the region of the diseased kidney there is a large pyonephrotic sac. The diagnosis is easy.

2. In the second the bladder is normal one ureter is impermeable and in the corresponding kidney region there is a tumor. Diagnosis is possible from the history etc.

3. In the third there is advanced tuberculous of the bladder ureteral catheterization is impossible an enlarged kidney may be palpated which may be healthy and only hypertrophied while the diseased kidney is atrophic. Diagnosis is possible by exploratory incision. The author does not mention the possible value of radiography in some of these conditions.

He reports a unique case in which the symptoms dated back 12 years. Finally an abscess pointed in the left post axillary line and just below the costal margin. Drainage of this gave temporary relief but subsequently the diagnosis of closed pyonephrosis was made. Upon operation the process was found to have penetrated the pleura through the diaphragm causing a tuberculous empyema—this cavity had been drained at the first operation. The kidney was found to be converted into a large pyonephrotic sac with little renal parenchyma remaining. Although, in the removal of the pyonephrotic sac no damage was done to the peritoneum or intestine a fecal fistula developed in the wound four days later and the patient died ten days after operation.

While the urine had become clear and the bladder healthy although catheterization failed to cure the disease that "autonephrectomy" failed to cure the disease and properly emphasizes the danger of trusting to nature to cure renal tuberculosis. Not only had the tubercular process involved the diaphragm and finally the pleura but it had also invaded the peritoneum and intestinal wall. The pressure of a movement induced by a laxative caused the supported bowel wall to give way and the fistula resulted.

Beer G. Stricture of Ureter Stimulating Nephro-nitis. *Internat. J. Surg. Gynec. & Obst.* 1904, 11, 37.

Beer reports the following case because of the rarity of inflammatory strictures of the ureter. A traveling salesman aged 40 complained of frequent attack of colicky pain in the right lumbar region

radiating along the iliac crest into the glans penis with tenesmus and meteorism of the abdomen. Such attacks would come frequently two or three times a week after any physical exercise and could be relieved only by morphine. A year ago his physician suspecting a stone in the right kidney made a kidney incision but did not find any stone and the attacks continued unchanged.

After close observation for three weeks the author concluded that the patient suffered from uric acid gravel in his right kidney. He was put on Canstatt's diet, sodium bicarbonate and lithium carbonate effervescent, and a hot bath every day. Three months later he had another attack of renal colic with tenesmus one night while trying to void urine the stream suddenly stopped and after a strange sensation as if some foreign body had passed the urethra, the flow started again.

Two years later while the patient was abroad during one of the patient's attacks, a prominent surgeon diagnosed the case as appendicitis and removed the appendix. After recovery from the operation the patient continued to suffer the same painful attacks. On reexamination the shreds found in the urine contained pus cells with characteristic groups of gonococci. The prostatic secretion showed many pus corpuscles with gonococci.

Six weeks later the right kidney was catheterized and the urine was found to contain many intra cellular gonococci the urine from the left showed neither pus cells nor gonococci. The diagnosis was then changed to the following: Pyelitis dextra, gonorrhoea, cystitis, gonorrhoea, prostatitis, gonorrhoea.

Within the next ten months the patient received forty injections of 50 ccm of a 20 per cent protargol solution into the right renal pelvis. The renal colics ceased from the time of the first kidney catheterization and have not reappeared. Inasmuch as the urine still shows pus and intracellular gonococci there is not a *stitutio ad integrum* but the author states that he has effected a practical cure by reducing the inflammation of the ureter which was producing the clinical picture of the renal colics and which had caused the patient intense suffering for years previous.

Looms Gauss

Babcock W. W. A Note as to the Recognition of the Ureter. *Report of a Case of Anomalous of the Ureter into the Appendix.* *Surg. Gynec. & Obst.* 1904, 19, 421.

The author points out that the normal or dilated ureter may be absolutely differentiated from other structures by characteristic peristaltic movements that are observable through the overlying peritoneum. The peristaltic has been observed in a dilated ureter of blood vessel in the mesentery and the ureter is seen first to slide upwards under the peritoneum and then after momentary pause downwards for several millimeters. This

trombone movement is usually observed but in some patients the associated contraction wave is more marked. About one half minute may elapse between the movements but they may be excited almost at will by stroking the tube. They differ from peristaltic intestinal movements in character, periodicity, and reaction to irritation and serve to absolutely differentiate the ureter. The observation may be easily verified by exposing the structures over the sacro iliac synchondrosis during an abdominal operation.

The uretero appendicular anastomosis was extra-peritoneal the appendix having been pulled through a small opening in the peritoneum. The left ureter was imbedded in the rectum. The patient who had an advanced carcinoma of the bladder died two days later.

BLADDER URETERA, AND PENIS

Arcein Röntgen Diagnosis of Vesical Calculi
(Dignostic radiographie des calculs vésicaux)
Cong d l s s f ne d vol Paris 19 3
By Journal de Chirurgie

Arcein shows that the roentgen diagnosis of vesical calculi is particularly difficult because of the opacity of this region to the X rays. The plate may show a shadow in the bladder region but there is nothing characteristic about it. It has to be identified by clinical and instrumental measures. If the plate does not show a shadow there may nevertheless be a calculus. In practice about 50 per cent of vesical calculi escape radiographic demonstration. Accessory methods, such as injection of water oxygen and collargol are very difficult to use. Aside from these limitations roentgen examination has its advantages. In patients with stricture of the urethra diverticula of the bladder etc. exploration by X rays may show calculi that could not be diagnosed by any other means.

J DUMONT

Laetscher J A Acute Cystitis Due to the Bacillus Aerogenes Lactis J Cl Rese h 19 4
By Surg Gynec & Obst

The author reports two cases of bacillus aerogenes lactis infection the first a cystitis in a woman of 28 two months pregnant and the second a urethritis in the woman's husband.

In the case of cystitis the symptoms were acute confining the patient to bed and showed considerable tendency to recurrence but cleared up in four weeks. Catheterized urines taken on the sixth and ninth days showed pure cultures of the bacillus aerogenes lactis.

In the second case the urethritis developed four days after the acute symptoms appeared in Case I. The discharge was yellow watery and acid and contained few pus cells but no gonococci. Frequency of micturition with tenesmus and a temperature of 103 with prostration headache and nausea developed subsiding by the tenth day. It was fol-

lowed by an acute epididymitis on the twelfth day with a temperature of 104 terminating in recovery on the twenty ninth day.

A blood culture on the sixth day and a Widal test on the ninth day were negative. Catheterized urines on the ninth and fourteenth days showed pure cultures of bacillus aerogenes lactis.

The organism was an encapsulated bacillus with rounded ends, which did not stain by Gram's method. Colonies on agar plates and agar slants were about one millimeter wide and of a bluish opalescence. On potato there was a heavy yellow viscous growth. Milk was coagulated in twenty four hours with acid production and in a fermentation tube with saccharose solution there was considerable gas formation.

The morphology capsule formation absence of motility rapid coagulation of milk and gas formation leave no doubt as to the identity of the organism. The author calls attention to the possibility of the first case being regarded as due to the colon bacillus and the second case as a gonorrhea without careful bacteriological study. H G HANNA

Solowij A Technique of Operation on Large Fistulae of the Bladder by the Abdominal Route (Zur Technik der Operation schwerer Blasenfisteln abdominalen Wege) Z h f g 34
Vol 913 13
By Zentralbl f d ges Gynec Geburtsh d Grenzgeb

Solowij uses Dittel's method of operating by laparotomy on large fistulae which cannot be closed through the vagina. He splits the uterovesical fold and thus reaches the fistula and sutures it. Recently he has extirpated the uterus from above and finds that this procedure makes the operation much easier. Hemorrhage is thus decreased and the approach to the fistula enlarged.

One great advantage of the operation is the possibility of thorough drainage through the vagina as in this way the danger of urine infiltration and infection is avoided if the suture does not hold. If the fistula is densely adherent to the os pubis it must first be loosened with a rasp. A detailed history of a case and the operation is given. K OOR

Lower W E: An Improved Method of Removing a Diverticulum of the Urinary Bladder Circulation 3 f 9 4
By Surg Gynec & Obst

From his experience the author believes that if a diverticulum is converted into a solid or semi solid mass its removal is more easily accomplished. He reports a case of diverticulum of the urinary bladder in which after posing the bladder collargol solution which had been previously injected into the diverticulum could be seen issuing from its opening. Through this opening was packed about one yard of one inch strips of gauze. With the fingers and thumb the bladder its upper portion was pulled forward and dissected from the peritoneum when the neck of the diverticulum was brought into view. It

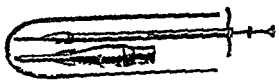


Fig 1 (Hredin) Hredin's new urethrotome showing knife surrounded by a silver catheter. A set screw operated by the thumb sets free the knife.

was divided entirely from the bladder which was held away laterally by retractors. The ureter was necessarily divided by the incision which freed the diverticulum and it was temporarily tied off to prevent the escape of urine. The gauze filled diverticulum was then carefully dissected away from the surrounding structures and removed. The divided ureter was then transplanted into the bladder through the opening made by resecting the diverticulum.

Hredin W W. A New Urethrotome. *Ann Surg* 1914 xc (10). By Surg. Cynce & Obit.

Hredin's new instrument shown above is said to be applicable to all calibers and all parts where strictures are usually found. The instrument consists of a main shaft in which the knife rod moves forward and backward and a guide which terminates in a No. 6 French catheter with a tuliform tip. The bulbous end of the guide conceals the knives and set screws onto the main shaft the knife set, when in action, operates through the grooved portion of the guide. The instrument is easily taken apart for sterilization. With this instrument which anyone can use with safety, the author states that internal urethrotomy is no longer a bungling uncertainty.

Kolleracher G. Clamp Resection of the Urinary Bladder. *J Am Med Ass* 1915 li 296. By Surg. Cynce & Obit.

The diagnostic course of the case consisted in inserting the vesical stethoscope and digital finger pressure. In this was a central necrotic tumor was known to be the cause of a vesicle tumor of apparent malignancy. The diagnosis of the growth suggested its removal by clamping off the top of the urethra. The bladder pressure was to the retention of the urine carrying the tumor. The retention of urine had a cystoscopic intervention in order to control the application of the nitrochlorine clamp used proved to be superfluous because palpation of the exposed bladder was sufficient to outline the base of the tumor and the surrounding infiltrations. The removal of the bladder was completed with the clamp in place and the first suture line inserted under the same conditions. Thus the resection was completed without any chance of disseminating cancerous particles through the interior of the vena cava. After removal of the clamp a superseding suture line was inserted and the abdominal wall completely

closed. The after treatment consists of catheterization at regular intervals.

The case proved a technical success, the healing being interrupted only by the appearance of an abdominal fistula that closed inside of ten days. Cystoscopy undertaken three months later showed normal conditions. The capacity of the bladder was 120 ccm.

HARRY A. BRACE

GENITAL ORGANS

Fastrau O and Degrais. The Employment of Radium in the Treatment of Cancer of the Prostate. *Cand J Med Res* 913 xlii 73. By Surg. Cynce & Obit.

The authors divide the surgical treatment of cancer of the prostate into two heads: (1) *Definitive treatment* which consists chiefly of suprapubic cystostomy in intended for the purpose of relieving the severe cystitis. The authors believe that the same principles which cover enlargement of the prostate in any other direction are applicable to those of cancer. They may have similar retentions, similar infections, etc. There is nothing specific in the treatment of cancer of the prostate and the palliative treatment consists in treating the symptoms.

(2) *Cauterization* by local prostaticectomy is of particular interest in cancer of the prostate. The operation is long, the technique difficult, the mortality great and occurs frequently. The writers were among the first to employ the use of radium in these cases.

The technique of treatment is described as follows. The surgical routes may be used for the purpose of applying radium to the prostate as for instance through the perineum.

The route through the bladder after a hypogastric incision is particularly suitable in cases where it is necessary to do a suprapubic cystostomy for relief.

(a) The natural routes. (1) *Per rectum* in which the whole of the prostatic part of the prostate lobes can be exposed and it is then easy to irradiate the whole of the prostatic portion of the gland. The applications should be made directly on the surface of the mucous membrane plaques. Radium tubes may be used but not so easily owing to the fact that it is necessary to cover the posterior portion of the prostate with wires in such a way that they are in contact with the anterior portion. (b) The route through the urethra leads directly to the prostatic tissue. The tube which is completely surrounded by glandular tissue comes in contact with the lateral lobes and by further introduction it may also reach the median lobe.

The authors believe that the urethral route may also be used at the same time for treatment thus making a cross-fire on the prostate. They state they have used the intraprostatic application of radium in treating fifteen patients but few of these patients were sufficiently persevering in their

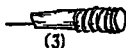


Fig 1 (Pastes and Degrais) Longitudinal section of catheter coude with single orifice with tube of radium in position

Fig 2 Longitudinal section of catheter coude with two orifices and radium tube in position

Fig 3 Rolling of the metallic wire which is fixed around the circumference of the catheter

Fig 4 (Pastes and Degrais) Diagram intended to show that the radium tube cannot be placed in good position on the rubber catheter if the latter has already been introduced into the posterior urethra

Fig 5 Tube of radium supplied with metallic wire which keeps its position and fixes it in the catheter

treatment to obtain any results in fact the authors state that lack of persistence is the greatest hindrance to the success of this method

The authors do not describe the manner in which they put the radium into the prostate except to say that they consider it a poor method. They believe that the use of the radium tube in a catheter offers the best method of treatment. The authors cite the following case giving the times of application for the radium and the method.

The patient a man aged 57 suffered in November 1908 and later in April 1909 from slight hematuria at the beginning of micturition. In consultation with Nitch surgeon at St Thomas's Hospital Le don cystoscopy was performed by the authors in order to verify a diagnosis of an infiltrating and inoperable tumor of the bladder. A superficial and irregular tumor was found not broken down covered by non ulcerated mucosa which was however abnormally red. This tumor the margins of which were fairly well defined formed a marked projection more than half a centimeter in thickness. It was bilobely elongated and extended from the margin of the neck on the right to the level of the right ureteral orifice. It was not pedunculated but raised the mucosa en bloc in its contour there was no change from the normal aspect of the vesical mucosa otherwise the bladder was everywhere normal. The ureteral orifices were normal though the right appeared to be rather wider than the left which was doubtless due to the mucosa being slightly thicker at that point and to a certain disturbance of venous circulation. Finally cystoscopic examination demonstrated the existence of small rounded prominences on the right lateral margin and a little more deeply in the tissue of the bladder at this level to a length of about one centimeter. These prominences were regular and smooth.

A diagnosis was made of prostatic neoplasm

which had extended into the vesical cavity and after having completely emptied the bladder the rectum was palpated.

The prostate was voluminous but hard nodular irregular sized and thickened in its right lobe and at that point less easily defined. There was no engorgement of the ganglia.

The first series of application of radium was made on October 20 5th 11th and 9th 1909. At the first séance a tube of 2 cgs was inserted remaining in position for two hours. In the subsequent séances a dose of 5 cgs was given.

On October 16 1909 after the first three applications cystoscopic examination showed that there was already marked diminution in the size of the vesical tumor.

Another series of applications was made on December 23 1909 and on January 20 6th 11th 15th and 18th 1910.

A urethroscopical examination made by Goldschmidt's instrument on December 18th showed that there was no ulceration and but little redness except on the right side. On this side the wall was apparently elevated by fairly regular and rounded lobulations one of which manifestly corresponded to a prominence which was seen on the margin of the neck of the bladder on the right side.

The author concludes as follows. The cases reported apparently showed with certainty that the action of radium has been obvious in cases in which the clinical diagnosis of cancer has been made by competent surgeons and confirmed by examinations conducted in the best possible manner but in many of these cases absolute diagnosis of cancer was practically impossible and was lacking. They speak of two cases where inguinal glands were involved and claim that they showed marked diminution in size after the treatment of the prostate with radium. Quoting direct the authors state

Gardner J A. and Simpson B T The Relation of Multiple Adenomata to the Etiology of the Enlargement of the Prostate Gland *Surg G, et Obst* 914 xvii 84

By Surg Gynec & Obst

Gardner and Simpson have studied one hundred prostate glands ranging in age from six months to ninety years. These glands were obtained from autopsy and operation. The authors find that prostates between the ages of forty and sixty years contain isolated adenomatous nodules while those between sixty and eighty years are either normal atrophied or enlarged due to multiple adenomata. They agree with Chevasu that these adenomata may spring from any portion of the prostate gland. Having found adenomatous nodules in the so called surgical capsule they cannot agree with Tandler and Zuckerlandl that prostatic enlargement always begins in the middle lobe. Their conclusions are: As far as our research with enlarged prostates reaches the condition in the majority of cases is caused by the growth of multiple adenomata.

Morton, H II Prostatectomy *Med Times* 9 4 xlii 14

By Surg G, et Obst

The author after presenting two cases of supra pubic and perineal prostatectomy adopts Guyon's division of hypertrophied prostate into the following three stages: (1) Premonitory in which the symptoms are difficulty in starting the flow of urine disturbance of the stream frequency of urination especially at night (2) Insufficiency of the bladder which is characterized by partial retention of urine (3) The period of incontinence during which the bladder may hold two or three quarts of urine and the patient complains of involuntary escape of urine.

To diagnose these three stages the author adds the following systematic examination:

- 1 Palpate the prostate through the rectum
- 2 Measure the quantity of residual urine
- 3 Inspect the prostate with the cystoscope

As to choice of operation the author thinks the anatomical formation of the prostate decides the choice. In his opinion the causes of death after operation are in the following order: (1) Suppression of urine (2) shock (3) hæmorrhage (4) pulmonary embolism (5) gangrene of suprapubic wound and general sepsis. The general mortality in all non selected cases in big hospitals he thinks is about 10 per cent and in selected cases about 5 per cent.

S Wm SCHAPIRA

Garraro N: Symptoms of Prostatitis without Enlargement of the Prostate (*S r les prostatiques sa prostate*) *Cl* 4 9 3 xx 43

By Journal de Chirurgie

After having discussed the prostatic bladder and the theories given to explain it the author reports four cases of his own with symptoms of prostatitis but without hypertrophy of the prostate. Cystoscopic examination showed the neck of the

bladder deformed by nodules of prostatic adenoma. After the enucleation of these nodules by Freyer's method normal micturition was re established.

The author concludes that before diagnosing bladder troubles as due to prostatitis all central or peripheral nervous lesions which might give rise to similar symptoms should be eliminated as well as the various causes of stenosis and retention and that all methods of examination known to modern urology should be practiced. A cystoscopic examination especially should be made as it gives excellent results, giving a view of the neck deformed by very small adenomatous nodules. Freyer's operation is effective in such cases.

The nodules removed from Carraro's four patients were adenomata within the sphincter developed at the expense of the glands surrounding the neck.

PIERRE FREDET

Rochet V and Thénot L: Removal of the Testicle the Vas Deferens and the Seminal Vesicle for Tuberculosis of Those Organs (*Ablation d t ticule du canal déférent t de la éscule séminale correspondante u cours de la tberculose des rganes*) *Co g d FA fo d chr Ps* 9 3 Oct By Journal de Chirurgie

Rochet and Thénot carried out this operation on a young man of 19. A cold abscess of the epididymis had been incised and a fistula had remained. On his admission to the hospital he had an extensive induration along the whole length of the vas deferens and a very marked increase in the size of the right seminal vesicle the lesions being strictly limited to these organs. Extensive resection was decided upon. At the first operation the seminal vesicle and the abdominal part of the vas deferens were removed through a Pfannenstiel incision at the second one the testicle and the inguinal part of the vas deferens were removed the latter procedure being by the scroto-inguinal route while the first was by laparotomy the posterior surface of the seminal vesicle being dissected off in a manner analogous to Wertheim's operation for uterine cancer. J DUNOY

MISCELLANEOUS

Barratt J O W and Yorke W: The Production of General Symptoms in Hæmoglobinemia *B I M J* 9 4 1 35

By Surg Gynec & Obst

Barratt and Yorke show conclusively that the symptoms coming on after the injection of laked blood cells are due not to the dissolved hæmoglobin but to the stroma of the red blood cells themselves.

Rabbits that received the stroma solution intravenously died practically instantly but those that received the hæmoglobin solution suffered no harm. The effect of the injection of laked cells upon the coagulation of the blood was not certain sometimes it seemed to prolong the coagulation time while at other times it seemed to shorten it. The cause of death in these animals was due to the intravenous formation of fibrin in the blood vessels of the lung.

V D LESPASSE

SURGERY OF THE EYE AND EAR

EYE

Clairborne J H: A Case of Embolism of a Branch of the Retinal Artery. *1914* Vol 503. By Surg. C. J. See & Obit.

The following case illustrates a one-sided central scotoma which the patient is able to ignore, though he is a professional and literary man and uses his eyes constantly.

A gentleman of medium height aged 68 high strung nervous but healthy and of abstemious habits with a large blur almost totally obscuring his vision, suddenly came over his left eye while he was going down stairs one morning after breakfast. He had gone to bed early the night before and had not been guilty of excess of any description nor any unusual muscular actions antecedent to the event when he had been strained at stool before its occurrence.

The blur became better during the day but later on became worse. The author saw him on the morning of the day on which it happened and observed the following condition. The left pupil was slightly larger than the right but reacted normally directly consensually and in accommodation the tension was normal. The left optic nerve inflamed slightly blurred above the lower central vein as it plunges into the nerve head was constricted upper vein enlarged and almost lost to sight in a slight cloud just above the disk directly above the upper edge of the nerve a branch of the upper vein as it runs towards the macula where it crosses an artery was much narrower the veins in general appeared to be rather full and dark. Right vision 23/30 left vision 23/200 plus eccentric fixation heart sounds normal but action slightly rapid. Kinetics found to be normal the field of vision showed a perfectly black scotoma in the center.

Two years and seven months after the first observation about the same condition was present in the fundus as at the former observation—absolute central scotoma somewhat irregular in form and about one-fourth the size of the original. The patient is in excellent condition has never resumed the use of tobacco or coffee is undisturbed in reading or in other use of his eyes by the existence of the blind spot. When however his right eye is covered he is only able to see the 200-foot letter with imperfect perception of the 100 foot line while he fixes the letters centrally. He is unable to read with the assistance of one eye alone.

The fact that the capillary network is lacking at the point of acute vision has long since been established. Leber, Becker, Gurriel, Reuse, Ayres and Mayerhausen agree that the fovea is devoid

of retinal blood vessels while the remaining part of the macular region is richly supplied. Mayerhausen estimates the square area of the macula at 2.356 mm. of which 2.205 are very vascular while the difference between these figures represents the non-vascular tract. According to the same observer the vessels of the macular region terminate about 137 mm. from the edge of the fovea.

In view of these things it is not unreasonable that embolic clogging of the circulation of the vessel feeding this area however small the embolism may produce a scotoma entirely involving the macula region including the fovea. The fact that this patient can see the top letter of the card in looking at it and can see none of the other letters below would tend to show that the upper region rather than the lower portion of the macula is affected. This would be consistent with the observation of the constricted blood vessel.

A diagnosis of embolism of the retinal central artery partial or complete may be made by the ophthalmoscope alone but sometimes it is difficult to do so owing to the uncertainty in picking out the exact blood vessel obstructed. The field and the history of the case should always be taken into consideration and are important factors in fixing the diagnosis.

The great congestion of the veins in this case which was observed on the first examination led the author to the view that the process was a venous one probably a thrombosis at the nerve head, but the subsequent developments the central scotoma and the constriction of all three temporal arteries more particularly the superior temporal one shows that it was a case of embolism of the latter artery—in short a partial embolism. Moreover he has noted in cases of thrombosis that the obscuring of vision does not come on as suddenly as in embolism and in the nature of things this should be so. He has noticed likewise in embolism both partial and complete that there is frequently a great enlargement of the vein particularly in complete embolism. It is not improbable that some portion of the embolus as it passed to the retina at the porous opticus topped there and impeded the outflow of the venous blood thus producing distended veins. The distention of the veins is naturally more noticeable than a slightly constricted artery hence the idea may be conceived at first that the process is a venous one. It is interesting to note that in the case noted the size of the scotoma is now very much less than it was at the beginning and it is nevertheless large enough to interfere with distant central vision and to prevent the patient from reading with that eye though the peripheral field is and has been normal.

Exact diagnoses in the background of the eye are difficult to make owing to its limited area and the intimate connection between the elements of which it is composed hence all factors should be considered and each given its true value

Stephenson S A Case of Brawny Scleritis *Proc Roy Soc Med* 913 vii, Sect Ophth 1
By Surg Gynec & Obst

The case reported is that of a carman 76 years old He gave a negative general history and a Wassermann proved negative teeth were in bad condition The left eye had become inflamed with out pain or known cause The bulbar conjunctiva above the horizontal meridian was brownish red in color with dilated vessels running over it Early this area was edematous later more brawny in appearance A patchy sclerosing keratitis developed around the margin of the cornea less marked above The vision recorded early was 3/24 The treatment consisted of salicylates potassium iodide and a boric wash

In the discussion tenonitis solid edema of the conjunctiva and malignant tumor of the choroid were suggested as other explanations of the condition

Dayle, D L Modern Treatment of Lachrymal Obstruction *Lancet Lond* 1913 clxxxv 26
By Surg Gynec & Obst

Dayle believes probing or the use of styles unsatisfactory extirpation he considers an advance because shortening the treatment and preventing suppuration but mutilating and therefore unsurgical He has used the Toti operation in which the sac is exposed its wall removed also the inner wall of the lachrymal fossa and the two openings approximated in ten cases with perfect success in seven and improvement in three He concludes by expressing the hope that there will be more development along this line of treatment as he believes it will yield excellent results EARLE B FOWLER

Waynard F P A Modification in Extirpation of the Lachrymal Sac *Indian Med Gaz* 914 li 7
By Surg Gynec & Obst

The operation described in this article is a modification of that developed by Kuhnt The inner wall of the sac is dissected outward together with the perosteum and followed down to the nasal duct This is cut as low as possible and the upper end grasped with a fixation forceps The sac is then freed upward drawing it up and inward the canalicular openings are cut whatever remains of the internal palpebral ligament is severed and the fundus freed The author considers this the most satisfactory sequence EARLE B FOWLER

Harman N B Tumor of the Choroid *Proc R Soc Med* 913 vii Sect Ophth 8
By Surg Gynec & Obst

The patient a woman aged 46 reported gradual failure of vision in the left eye over a period of three

months, becoming almost complete three days before examination The ophthalmoscope revealed a globular detachment above the disk with normal fundus reflex below and above There were numerous hemorrhages around the disk tension was normal and there was an absence of inflammatory symptoms Enucleation was advised

EARLE B FOWLER

Hansell H F Some Further Experiences in the Extraction of Immature Cataract by the Homer G. Smith Method *Med Rec* 1914 lxxx 108
By Surg Gynec & Obst

Hansell reports two of his last five cases on which he performed an extraction by the Homer Smith method In both cases the cataract was immature but vision was reduced to less than 20/300 in both eyes A preliminary iridectomy was performed at a later date a needle knife was thrust through the cornea and a cut made in the anterior capsule and underlying lens cortex Twenty four hours later an extraction was done In these two cases 20/30 vision or better was obtained EARLE B FOWLER

Chatterton E. Case of Double Tubercular Iritis. *Proc R Soc Med* 913 vii Sect Ophth 5
By Surg Gynec & Obst

Chatterton reported a case first shown 8 months before At that time both irides were thickly studded with yellowish gray vascular nodules posterior synechiae and vitreous opacities were present in both eyes R V 6/24 L V 6/36 Intra-ocular hemorrhage in the left occurred some weeks later Repeated pyrexias of both anterior chambers was done and tuberculin given All nodules have disappeared R V 6/12 and J 10 L V hadrons EARLE B FOWLER

Cunningham A T R Report of a Case of Gradual Occlusion of the Common Carotid Artery in the Treatment of Pulsating Exophthalmos *J Am Med A* 914 lxi 373
By Surg Gynec & Obst

The author reports a case in which a clamp was used to cause automatically a gradual occlusion of the common carotid in a case of pulsating exophthalmos

The condition occurred in a man 39 years old coming on rather suddenly in the right eye two months after a blow over the left cheek and continuing for four years A sudden attack of unconsciousness brought the case to operation The clamp used was one described by Vell and consisted of two blades hinged the compression force being obtained by a rubber band This clamp was applied to the right common carotid the tension being light enough to permit a pulsation to be felt distally The wound was closed over the clamp and pulsation had ceased 4 four days thereafter Two months later the clamp was removed and it was found to have cut its way entirely through the artery

EARLE B FOWLER

INTERNATIONAL ABSTRACT OF SURGERY

Roe J O: Orbital Abscess, from Infection Through the Ethmoid. *N Y J Surg* 1913 xxviii 94
By Surg Gynec & Obst

The author's first case was a boy 17 years old there was marked edema around the right eye and orbit with a cellulitis raising of the upper lid vision blurred temperature 103 F intense pain back and above the eye. It was doubtful whether it was a frontal sinusitis with a subperiosteal abscess or an infection to the orbit through the ethmoid. Upon nasal examination, there was a mucopurulent discharge from the ethmoid region. The anterior end of the middle turbinate was removed, the posterior ethmoid cells and posterior portion of the orbital plate removed, the pus was drained and the patient made a good recovery. The second case was a male 19 years old. There was swelling in both eyes the patient becoming delirious and then comatose the temperature 103 F. The diagnosis was an orbital infection with abscess or a meningitis. The same operation was done as in the first case follow ing which the blood and pus came away. The pathologist's report was orbital phlegmon and infectious ethmoiditis. The author compares the advantages of the orbital and intranasal route and states his belief that the latter route is the best safest and most direct. This special cutting forceps cutting at right angles are made for right and left

He locates the posterior wall of the nasal cavity through its entire extent from the chondroid plate to the facial process with a slender thin flat steel probe thus he lays stress upon to obviate the possibility of entering the cranial cavity.
L J GOLDSTEIN

EAR

Wood J W: Direct Examination of the Eustachian Tube and Nasopharynx. *Med Press & Circ* 1914 xxviii 84
By Surg Gynec & Obst

Based upon his findings in the study of 650 cases by the direct method with the Holmes nasopharyngoscope the author has classified the disorders of the eustachian tube and finds the inflammatory conditions most common and never associated with normal hearing.

Acute salpingitis is the most important condition affecting the eustachian tube as practically all cases of chronic middle ear catarrh originate in catarrhal conditions affecting the nasopharynx and the mouth of the eustachian tube.

The author concludes from his findings that in all cases of slight deafness in order to make a precise diagnosis it is of the greatest importance to make a routine examination of the post nasal space with the nasopharyngoscope.
ELLIS J P TITUSON

SURGERY OF THE NOSE, THROAT, AND MOUTH

Dutrow H V: Deformities of the Nasal Septum and the Operation for Its Submucous Resection with an Original Incision. *La Clin* 1914 cx 60
By Surg Gynec & Obst

Anatomy of the septum was present in 77 per cent of 1,000 Anglo-Saxon skulls examined by Mackenzie while Purcell found only 5 to 10 per cent deviated in 500 negroes. The author believes the most plausible theory of the causation of deviation to be fixation of the brain case in development and early malformation of the face. Traumatism and comparison with the bones of the face. Traumatism of course is a factor in a small percentage of cases. He divides all deviations into two classes: (1) Simple and (2) those associated with overgrowth. Deviations are rarely seen in children under seven years of age but reach their maximum development between the fourteenth and twenty fifth years. Deviations should be corrected at any time when symptoms arise which can be traced to that source. Deviations arise which can be traced to that source. Deviations arise which can be traced to that source. These symptoms are: reflex disturbances, nasal obstruction, head aches, reflex disturbances, deafness is rarely necessary for the submucous operation for the correction of septal deviations—the only operation mentioned by the author always be used when possible method, should always be used when possible excess of hemorrhage being thus avoided.

Dutrow advises in going through the cartilage to do so at an angle of thirty five degrees instead of at right angles. It is easier to elevate on the opposite side with this incision and if button holding follows permanent perforation is avoided as the two openings do not approximate. Reference is made to the occasional occurrence of sphenoid meningitis. The operation should not be made a race against time with the chance of sacrificing useful mucosa to save a few minutes for the patients stand this operation well and there is usually little shock. As a rule the incision should be closed with sutures.
GEORGE M. COVENS

Hofer G: The Question of the Etiology of Genuine Ozena. *La Clin* 1914 cx 60
By Surg Gynec & Obst

Hofer supports the theory of the etiology of the coccobacillus found in ozena as being his claims upon a series of experiments by which he has treated selected cases presenting the cardinal symptoms of genuine ozena. The results were so remarkable that the author believes that the action is absolutely certain to be his alone guarantee.
ELLIS J P TITUSON

ABSTRACTS OF SOCIETY PAPERS

AMERICAN SURGICAL ASSOCIATION

MEETING HELD AT NEW YORK CITY APRIL 9-11 1914

Mayo W J The Prophylaxis of Cancer
Am Surg Ass N Y 1914 April
By Surg Gynec & Obst

Mayo states that all vertebrate animal suffer from cancer in situations affected by their habits or conditions of life leading to local lesions in the protective mechanism. He believes that we should look upon local lesions as an invitation to cancer without regard to just what the actual cause of cancer may be. The term precancerous should be limited to those conditions which clinically and microscopically cannot be said to be surely benign or surely malignant the character of the cells are changed they lack differentiation but as yet there is no infiltration of the surrounding tissue. This cellular change is found in the periphery of malignant growths and in conditions which have afterward developed malignancy. The local lesion is the invitation and the precancerous condition the probable acceptance.

He divides the sites of local irritation into three groups (1) Congenital or acquired neoplasms such as moles, warts and benign tumors which may undergo malignancy (2) trauma which strongly influences not only the development of sarcoma but of carcinoma (3) chronic irritation which he considers the most important of all the precancerous conditions whether the result of mechanical chemical or infectious agencies. Among the many examples cited are: The development of cancer in the mouth from betel nut irritation in India amounting to nearly half of all the epithelial cancers of the country. The development of cancer in local lesions produced by heat as cancer of the lip from smoking the kangri sores following burns which form more than 50 per cent of all cancers in Kashmir. Those cancers on the skins of locomotive drivers who have been exposed for years to the direct action of heat cancers following chronic irritation due to different forms of radiant energy X-ray etc. cancers following the local lesions due to infections such as blennorrhoea of the bladder treponema pallidum in keratous lesions nematodes in testicular tumors in horses and in gastric cancer of rats and the horn core cancer of cattle due to the irritation of the ropes through the horns with which the cattle pull their loads. If the betel nut were not used in India and the kangri basket in Kashmir the cancers in these two countries would be reduced one half.

The author calls attention to the importance of applying the evidences of local chronic irritation in the production of cancer to the solution of problems as regards the development of cancers on the internal mucous surfaces of the body for example cancer of the gall bladder from gall stone irritations and cancer of the stomach following gastric ulcer. Fifty per cent of cancers of the pelvis of the kidney are demonstrably superimposed on extensive renal calculus formation. Carcinoma of the appendix usually occurs in association with chronic obliterative processes. In the sigmoid and rectum the irritation in diverticula may have given rise to malignant disease. Cancer of the stomach occurs in 30 per cent of all cancers in civilized man but is not common in primitive races or in lower animals. When cancer of a certain organ is found in only one class of individuals or one species like betel nut cancer and kangri cancer it means a single cause. Cancer of the stomach must be due to one cause otherwise the lower animal and primitive races would more often be affected. Something in the habits and customs of civilized man in connection with the cooking and preparation of food must be responsible for this large percentage of cancer of the stomach and a comparative investigation would be of value.

In conclusion Mayo says: I would again call attention to the fact that pre-existing lesions play the most important part of the known factors which surround the development of cancer that such precancerous lesions are produced by some habit or life condition which causes chronic irritation that where cancer in the human is frequent a close study of the habits of civilized man as contrasted with primitive races and lower animals where similar lesions are conspicuously rare may be of value and finally that the prophylaxis of cancer depends first on a change in those cancer producing habits and second on the early removal of all precancerous lesions and sources of chronic irritation.

Bloodgood J C: Cancer of the Tongue Based Upon the Study of Over One Hundred Cases.
Am Surg Ass N Y 1914 April
By Surg Gynec & Obst

The author's study has led to some very remarkable conclusions. It has demonstrated that the failure to cure when cancer of the tongue is fully developed is due chiefly to the neglect to remove

case the lesion of the tongue had previously been subjected to operation the recurrent tumor was extensive and the glands of the neck involved. In this group every type of operation according to the newer methods described is represented. At the present time there is evidence of recurrence in only one case and here the lesion was most extensive and the operation most radical.

The experience with these 14 cases proves the point as far as the immediate mortality is concerned because considering all cases the post-operative mortality has been about 22 per cent. Since recurrences as a rule take place within one year of the operation the results in these 14 cases also demonstrate that the improved methods promise a much larger per cent of permanent cures and certainly a longer freedom from recurrence.

It is therefore apparent that the technique of operations for cancer of the tongue has been conquered. Now if men can be educated to present themselves earlier for operation the disease will doubtless be conquered.

Orle G W The Two Stage Operation T 1w
S 1 A N Y 19 4 April

By S rg Gynec & Obst

The safety of certain operations especially those for cancer of the rectum stomach large intestine uterus, larynx and the tongue is increased by performing the operation in two stages. The first stage prepares the way for the safer second stage especially in a weakened patient and the danger of reimplantation of cancer cells is lessened. The general advantages of the two stage operation are greatly increased by the employment of nitrous oxide-oxygen anesthesia and the general technique of anoci association.

In cases of cancer of the rectum a preliminary colostomy prepares the way for the major operation. In cancer of the stomach gastroenterostomy is first performed the balance of the operation being deferred until the intestinal balance is assured. In cases of uterine cancer the danger of a fatal reimplantation of cancer cells is obviated by a preliminary destruction of the cancerous growth by cauterization. The manifold dangers attending laryngectomy are avoided or obviated even by a preliminary tracheotomy at which time the deep planes of the neck are packed with iodoform gauze. The resultant local reaction fixes the trachea protects the mediastinum and eliminates the danger of vagit. The author discusses also the advantages of the two stage operation for cancer of the tongue and for acute abdominal infections. In exophthalmic goiter a three stage operation may even be necessary to control the hyperthyroidism and restore the physical as well as the physical balance of the patient.

In general it may be said that the two stage operation under anoci association gives the surgeon his maximum opportunity for lessening the operative mortality rate in many of his greatest surgical

risks thus the surgeon may triumph over surgical difficulties by strategically dividing his forces. In the author's own personal experience the mortality rate of cancer cases has been diminished 50 per cent by the employment of the two stage operation.

Powers C. A : Systemic Blastomycosis T 1w
S 1 A N Y 19 4 April

By S rg Gynec & Obst

Powers discussed the above subject giving the history pathological conditions course and ordinary termination of the disease. He related two cases both of which were fatal. The first of these had been studied bacteriologically over a period of nearly two years the cultures of the micro organisms being carried successively from one animal to another. According to the author blastomycosis generally results in death when it becomes systemic. Prolonged and increasing doses of potassium iodide and of cupric sulphate may possibly be of value. The condition generally begins with cutaneous or subcutaneous lesions and generalization may be prevented by very early and very wide excision of the affected tissues. Early diagnosis of the cutaneous and subcutaneous condition is therefore of prime importance.

Interesting facts derived from one of Powers cases regarding the botany of the organism have been presented by Whitman Professor of Pathology in the University of Colorado.

The author strongly advises early thorough and wide excision of all blastomycotic lesions when this be possible with a view to preventing their generalization.

Brewer G E and Cole L G Résumé of Röntgenological Diagnosis of Ulcer of the Stomach and Cap T 1w S 1 A N Y 19 4 April

By Surg Gynec & Obst

The object of this communication is to report a series of cases furnishing data which may help to solve the two following important questions:

Is there reason to believe from our present experience that the Röntgen rays will eventually prove as valuable for the diagnosis of surgical lesions of the stomach and duodenum as for the diagnosis of fractures and urinary calculi?

What method of Röntgen examination gives the most accurate results?

The most satisfactory diagnostic method up to the present time has been serial Röntgenography. In the study of 50 or 60 Röntgenograms of the patient in various postures taken in several series at intervals of two hours until the stomach is empty. These Röntgenograms are studied individually and collectively or reproduced cinematographically. Recently the authors perfected a true Röntgen cinematographic machine capable of making 50 Röntgenograms of a single cycle or 200 Röntgenograms of an individual peristaltic contraction from the fundus to the pylorus. The following was gained by such examination or by serial Röntgenography:

- 1 Size position and shape or type of the stomach
- 2 Activity of the peristalsis and width of the peristaltic contraction
- 3 Character of the systole and diastole
- 4 Depth of the rugae and the direction in which they run
- 5 Degree of dilatation and the motor phenomena of the descending and horizontal duodenum
- 6 Pyloric sphincter—whether clear-cut and well defined on both surfaces and three sixteenths of an inch wide or irregular in contour and wider than normal
- 7 Cap—*pylorus ventriculi*—whether symmetrical corresponding in size and contour with the pars pylorica, or invisible deformed or spasmodically contracted

The diagnosis of extensive gastric lesions is based on permanent filling defects in the walls of the stomach or cap, whereas the diagnosis of early lesions particularly of small indurated ulcers and adhesions is based on the interruption of peristaltic contractions as they progress pylorusward. The interpretation of findings has been worked out by a study of about 20,000 roentgenograms of 650 cases. A report on 27 consecutive cases examined roentgenographically by Cole and operated on by Brewer serves to show the accuracy of this diagnostic method.

The clinical history, physical examination and gastric analysis of these patients was unknown to the roentgenologist, who reported to the surgeon his exact findings and an opinion regarding the presence or absence of a gastric or duodenal lesion, its location, extent and probable cause. In several cases a lesion in some other portion of the gastro-intestinal tract was diagnosed. Later each case was explored and the findings at operation recorded.

In 21 cases an absolute roentgenological diagnosis was made and in 20 instances was confirmed in every respect by operation.

A tentative diagnosis on account of incomplete examination was made in 6 cases. Surgical procedure confirmed 4 of these and disproved the other two. One of the roentgenological errors was due to the fact that a diagnosis of ulcer of the cap was based on too few roentgenograms to justify a differentiation between ulcer and spasmodic contraction. The hyperemia and edema observed at operation were undoubtedly the result of a spasm, but no ulcer was found. The other case had all of the characteristics previously described as indicating spasm, but as the area involved was accentuated by a circular constriction the lesion was considered organic rather than spasmodic. A careful matching of the roentgenograms over each other would have prevented this mistake.

The roentgenological diagnosis was confirmed by the surgical findings in 80 of the cases examined. In 40 per cent a negative diagnosis of gastric or duodenal ulcer or carcinoma was made by the roentgenologist even though the symptoms were sufficiently severe to warrant surgical procedure

and in not a single instance was either of these conditions found on operation. In one-half of these cases a lesion in some other part of the gastro-intestinal tract was diagnosed roentgenologically and proven by surgical procedure.

If in a long run of cases such a high percentage of correct negative and positive diagnoses can be made roentgenologically as this series of 27 consecutive cases indicates, there is no doubt that the roentgenological diagnosis of surgical lesions of the gastro-intestinal tract will prove as valuable as that of fractures and urinary calculi. The time seems near at hand when chronic surgical lesions of the stomach should not be operated upon without previous roentgenological examination if it is possible or practicable to obtain one.

Summers J F. Suggestions Regarding the Anatomy of and the Surgical Technique in the Treatment of Jönnesco's Membrane. *Am Surg Ass N Y* 914 April.

By S R. Gynec & Obst.

Summers first said that the Jönnesco-Jackson-Reid membranes should be considered as congenital that they may always be demonstrated in every individual should the incision admit that they are purposive and intended by nature as ligamentary supports preventive of intestinal stasis rather than causative and that if this is so they should be divided only after they may have become restrictive of intestinal function from loss of nervous and muscular tone resulting from chronic intestinal toxemia that the so called "white line" is the line of fusion of the duodenal and colonic peritoneum with the parietal peritoneum after their rotation has been completed and can be made manifest by rotating the attached hollow viscus in a direction continuous with the course of the blood vessels and fibers of the membrane—a direction opposite to the fetal rotation. This white line may be called the ligamentary attachment of the pericolic membrane to the parietal peritoneum.

The viscera I men differ in as great a degree as do their faces—there are two exactly alike. The author believes that the Jönnesco-Jackson membranes are the cause of intestinal stasis only when their support defect is on the other hand where it may be excessive and cause angulation. These membranes although present in children, seldom produce symptoms, them because intestinal peristalsis is sufficiently powerful in childhood to overcome minor difficulties. It has never observed symptoms of these membranes in anyone under seventeen years of age and most of the sufferers were over thirty years of age and from there on to sixty. Intestinal stasis can be caused independently of a regulating bands or ptoses as it has been clinically proved to be caused by an incompetency of the ileocecal valve in a large number of people—50 out of 1500 examinations—and the condition remedied by an operation correcting this incompetency. The study of the al

imentary tract is of invaluable service in locating the cause of obstruction in obstinate cases. Very many sufferers from intestinal stasis due to ptosis of the hollow viscera are best relieved by mechanical supports.

Martin E. The Ileocecal Valve as a Factor in Chronic Intestinal Stasis. *Trans. Am. Surg. Assn.* N. Y. 1914 April. By Surg. C. & Obst.

The presence of a distinct valve indeed double valve at the ileocecal junction is readily and clearly demonstrable. The two lips which project into the cecum act mechanically though they are supplied with muscular fibers which prevent regurgitation. This serves the physiological function of delaying the intestinal contents in the lower ileum for periods frequently of many hours.

The reason for the persistent constipation observed in cases of chronic appendicitis is probably incident to a disturbance of the ileocecal sphincter reflexly excited by the inflamed appendix. The cure of the constipation incident to the removal of these appendices is probably due to restoration of normal sphincter action incident to the removal of the disturbing factor. The betterment in the general health following these operations is almost certainly due to the cure of the accompanying intestinal stasis which is ideal and not accidental.

The failure to cure constipation by the removal of a chronically inflamed appendix and consequently the failure to better the general health or even the local pains which are typical of sphincter muscle rather than of an inflammation is probably due to the circumstance that either the appendix is not the disturbing factor or that the phlebotomy has been so prolonged that either muscular hypertrophy or fibrosis has resulted and that return to normal functioning is impossible. For such a condition a submucous resection of the sphincter should be adequate.

The propulsion of the cecal contents into the ascending colon and thence to the sigmoid is due to the stimulus of the forceful and copious injection of the low ileal content into the cecum. Such an injection is only possible when the ileocecal sphincter is functioning properly. A gradual filling of the cecum fails to produce a propulsive impulse resulting in a gradual dilatation with at times consequentecal regurgitation. It would therefore seem rational that in the ileocecal palsy one of the important factors is colonic stasis. The argument is further reinforced by the fact that after reimplantation of either the transverse colon or the sigmoid with cecum and the ascending colon may become reimplanted and tend to mean be taken to prevent the retrograde passage of the contents of the large bowel.

By a submucous resection of the ileocecal sphincter may be rendered partial or completely incompetent thus preventing the reflux of the ileal contents into the cecum and thus preventing the retrograde passage of the contents of the large bowel.

that a portion of the good results obtained by ileosigmoidostomy are incident to the fact that the ileocecal sphincter is ablated. In cases of intestinal stasis are subject to surgical treatment before the colon is so profoundly altered as to be obviously incapable of propulsive action upon its content and submucous resection of the ileocecal sphincter or a plastic operation dividing all the coats of the bowel should serve as well if not better than ileosigmoidostomy and in any event is preferable as a preliminary procedure since it is simple in technique and is a less involved operation.

Hamann C. Ligation of the Innominate Artery for Aneurism of the Subclavian in a Patient 65 Years of Age. *Trans. Am. Surg. Assn.* N. Y. 1914 April. By Surg. C. & Obst.

Hamann reports the ligation of the innominate artery for aneurism of the subclavian in a 65 year old patient in which part of the clavicle was resected, the innominate tied with a heavy silk ligature and the right common carotid tied with chromicized catgut. There were no complications following the operation and there was complete recovery and cure of the aneurism. The patient was well when seen fifteen months after the operation.

Murphy F. T. Choice of Anesthetic in Operating for Abscess of the Lung. Report of Two Cases Operated upon under Local Anesthesia. *Trans. Am. Surg. Assn.* N. Y. 1914 April. By Surg. Gynec. & Obst.

The writer believes that surgeons too generally have failed in considering the needs for the use of the negative and positive pressure methods of Kruerbruch and Brauer or the intrathoracic insufflation of Meizer and have distinguished sharply between intrathoracic operations in which the free pleural cavity will or may be opened and operations in which the pleural cavity will not be opened.

The essential factors in operating for a tuberculous abscess of the lung are considered to be the correct diagnosis and interference before the patient is so toxic as to be beyond relief. Drainage without infection of the free pleural cavity and avoidance of a factors which may tend to cause extension of infection to uninvolved portions of the lungs.

The value of stereoscopic X-ray plates is emphasized as an aid in diagnosis and the results with and without operation are compared. The need of protecting the general pleural cavity from the local contents is emphasized.

The author believes that where adhesions do not exist the abscess can be drained most advantageously by a two stage operation and recommends that at the first stage the muscle flap be turned back and the ribs resected, the lung be exposed to the pleural space or adhesions caused by placing gauze over the exposed area and that at the second stage drainage should be instituted through the first stage.

Local anesthesia is recommended because it in no way interferes with the operation and with it the dangers of the general anesthetic are avoided. If a general anesthetic is used the intratracheal insufflation method with gas and oxygen is recommended. Of 2 cases in which the abscess was readily drained under local anesthesia by the two-stage operation one patient recovered the other died.

Lilienthal H: Pulmonary Abscess and Bronchiectasis: a Clinical Report. *T Am Surg Ass* N Y 9 4 April. By Surg Gynec & Obst

Lilienthal's paper presents his experience and the conclusions arrived at from the study of 12 cases with 24 operations on 11 of the patients.

There were 5 cases of bronchiectasis with various drainage operations followed by 4 improvements and 1 death. 3 acute abscesses of the lung with 2 cures. 1 extensive gangrene of the lung died. 1 fetid bronchitis taken for bronchiectasis died.

There is also the report of an unfinished case of bronchiectasis of the right lower lobe in a child 4 years old, with resection of the entire lobe—convalescence was well established at the date of the paper. The cause of the bronchiectasis was the aspiration of a piece of nut one year before but in spite of the removal of the foreign body by bronchoscopy the suppuration continued.

The author calls attention to various details in diagnosis and technique speaking strongly in favor of the more frequent pre-operative employment of the bronchoscope. The conclusions based solely on the cases in the paper are as follows:

1. The differential diagnosis of true lung abscess and suppurative bronchiectasis is important.

Radiographical study of each case is essential.

3. Bronchoscopic examination is a valuable procedure and should not be omitted.

4. Drainage of a lung abscess by thoracotomy is likely to result in cure.

5. Drainage of large infected bronchiectases may be followed by improvement but complete recovery is unlikely.

6. Extensive thoracoplasty should be reserved for those cases in which other operations have failed.

7. Exploration of the pleural cavity and of the lungs by intercostal thoracotomy is feasible and reasonably safe.

8. Extirpation of a bronchiectasis by removal of the affected portion of the lung may lead to complete recovery but the danger of the operation is great.

9. Artificial pneumothorax and Tuffier's extra pleural tamponade should be reserved for cases of pure tuberculosis.

10. Intratracheal insufflation is a simple accurate and safe method of securing differential pressure.

11. Operations involving one lung can be performed with inhalation anesthesia.

Mayo C. H. and Beckman E. H. Visceral Pleurectomy. *Tr Am Surg Ass N Y*, 1914, April. By Surg Gynec & Obst

Up to the time of Fowler and DeLorme, various operations for the relief of chronic empyema with a large cavity had been tried in order to obliterate the cavity by collapsing the chest wall and without making any attempt to restore the function of the collapsed lung. The operations of Fowler and DeLorme have been accepted quite generally in Europe but have not received much attention from American surgeons. A systematic review of the literature discloses but 24 cases reported by American surgeons in the last twenty years.

It is believed that in a considerable percentage of cases of chronic empyema the lung will expand to a greater or less extent if visceral pleurectomy combined with gridironing of Ramshoff is performed. In the experience of the authors, the operation is not as severe or as dangerous as the Schede operation. Patients should be carefully prepared for operation by securing drainage at the most dependent part of the cavity by reducing the infection to a minimum and the resistance of the patient to the maximum by vaccines. The operations for this condition cannot be made by rule but must be selected individually for each case. They are often best done in stages especially when the patient is in a debilitated condition. It is advisable to try visceral pleurectomy first as some lung expansion is nearly always obtained. If the cavity still persists the operations of Estlander and Schede or one of the modifications of these operations can be done at a later time to obliterate the cavity remaining. Four cases of visceral pleurectomy are reported three of which healed primarily and in the other two thirds of an entirely collapsed lung is functioning.

MacKenzie K. A. J. Double and Anomalous Forms of Empyema: a Preliminary Report on a Proposed Method of Treating Empyema with out Resort to Pneumothorax. *T Am Surg Ass N Y* 9 4 April. By Surg Gynec & Obst

The author reports in detail four of his own cases of double empyema which occurred during an epidemic of influenza in the Northwest in the year 1899. In all the cases either bilateral simultaneous thoracotomy or bilateral thoracotomy with a few days interval between operations was done. Several interesting cases of anomalous forms of empyema are reported including gunshot wounds stab wounds putrid empyemata following aspiration, and one case in which the paragonimus westernmanni was the etiological factor. Thirty fully reported cases of double empyema are collected from the literature in all of which aspiration incision and drainage, resection and drainage or some combination of the three procedures was performed simultaneously or at intervals of 10 to 150 days.

In the 34 cases in which the ages varied between 13 weeks and 40 years, aspiration was performed 15 times on the right side and 2 times on the left.

intranasal treatment whereby the anterior and upper portion of the middle turbinate and some adjacent cells are removed. Many other cases, however do not yield to such treatment and tend to be obstinate notwithstanding the various methods of operation in present use which are classified as (1) intranasal and (2) extranasal operations.

Most clinicians and anatomists are agreed that the intranasal effort to enlarge the vicinity of the ostium of the sinus is attended with unnecessary risk. The external operations consist in removing the facial or orbital wall of the sinus, or both while the more radical such as the Killian operation removes also a portion of the nasal process of the superior maxilla and lachrymal bone. These operations strive to obliterate the sinus and are attended with subsequent disfigurement varying according to the type of operation.

The real issue in these cases is the establishment and maintenance of adequate drainage. This is difficult because of the anatomical relations in the vicinity of the ostium. The author believes that the principle of the Killian operation is wrong because the bony support afforded by the nasal process of the superior maxilla and lachrymal bone is removed and thereby the soft parts are drawn in subsequently thus narrowing the region. In the smaller sinuses easily obliterated provided the patient does not object to the deformity the result may be satisfactory.

The steps in the operation practiced by the writer are as follows. A small bony opening is made in the facial wall just above the nasal process. A small probe is passed through the ostium into the nasal cavity and left there while by means of small curettes at the start and subsequently the use of burr drills, the neighboring anterior ethmoidal cells and the nasal crest of the frontal bone are removed then the thickened mass of bone which exists at the region of articulation between the frontal bone above and the nasal bone and the nasal process of the superior maxilla are so thinned as to leave only a thin shell. This removal can be accomplished only by means of burr drills introduced through the nose with the burr in sight through the opening in the facial wall. Furthermore the writer believes that there is no objection and that it is advisable even when only one sinus is involved to breach through the interfrontal septum and remove the same manner the corresponding portion of the floor of that sinus. The removal should include also a portion of the nasal septum for a distance below the interfrontal septum. By this procedure a surprisingly large opening is obtained and an instrument entering either nostril can be passed into either sinus and swept across from one side to the other. The external wound is closed. By this means chronic sinusitis may be cured at once and the most obstinate yield readily.

As after all operations upon the frontal sinus a certain amount of subsequent intranasal treatment is necessary in order to control the growth of granulation tissue.

In cases where, as a result of previous operations the bony structures above mentioned have been extensively removed followed by excessive granulation tissue formation causing early obstruction successful results have been obtained by epidermizing the sinus after the principle carried out in the mastoid region. This is accomplished by turning a small flap from the upper eyelid so that its surface faces the sinus and the epithelium spreads circumferentially just as with any skin graft the outer wound being closed immediately by a simple plastic operation leaving a linear scar.

Hartmann H. The Gastro-Intestinal Mouth in Cases of Permeable Pylorus. *T. Am. Surg. A.* N. Y. 914 April. By Surg. Gyrec. & Obst.

It is generally accepted that in the presence of permeable pylorus the gastrojejunal mouth is inclined to obliterate anatomically in consequence of its physiological uselessness. These two affirmations seem to the author to be mistakes.

1. A gastrojejunal stoma well lined by mucous membrane with no ulceration whatever and with no scar tissue remains permeable forever. The occlusion of gastro intestinal stoma has been observed as well in cases of pyloric or subpyloric stenosis (41 cases) as in cases of free pylorus (3 cases). The obliteration results from formation of scar tissue. (1) Original absence of union per primam and healing by granulation. (2) secondary development of an ulceration most frequently of peptic origin at the point of anastomosis.

2. The function of the gastrojejunal stoma takes place even when the pylorus is permeable. Experiments on dogs have shown to us that if the stoma is situated on the cardiac part of the stomach the chyme almost always passes through the pylorus on the contrary if the stoma has been made on the pyloric antrum the gastric content almost always passes through the stoma. These differences are explained by the fact that the stomach has to be divided physiologically into two parts a cardiac part simple reservoir where secretions act on the ingested aliments a pyloric part a motor thrusting the gastric contents into the intestines. Radiological examinations on the author's patients confirm experiments on dogs.

The author summarizes briefly as follows: (1) There is no more fear to be had of an anatomical obliteration of the gastrojejunal stoma in the case of a permeable pylorus than in any other case. (2) The gastrojejunal stomata in the case of permeable pylorus are physiologically useful when they are established on the pyloric antrum.

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DAB Louisv lle Month J 19 4 x 216

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Genital Organs

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barium sulphate suspension the diagnosis of some
urinary diseases R J WILLIAMS Lancet Lond 914
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muscle fibers B BOCCY Arch f d ges. Physiol 1913
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9 3 vi
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Genital Organs

A case of cavernous lymphangions of the scrotum *CARLO RIGHETTI* *Sperimentale* 93 lvi, 83

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cases S IGLEAUX Laryngoscope 19 4 xxiv 33
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Mouth

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TABLE OF CONTENTS

I. AUTHORS	xii
II. INDEX OF ABSTRACTS OF CURRENT LITERATURE	xii
III. MONTHLY CRITICAL REVIEW	565-572
IV. ABSTRACTS OF CURRENT LITERATURE	572-652
V. BIBLIOGRAPHY OF CURRENT LITERATURE	652-678
VI. VOLUME INDEX 1 SUBJECT MATTER 2 BIBLIOGRAPHY 3 AUTHORS	

ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

Anesthetics

HENDERSON F. Ether Anesthesia	57
ZWEITEL, E. Clinical and Experimental Study of Nitrous-Oxide-Oxygen Anesthesia	57
BALFOUR D. C. The Use of Novocaine as a Local Anesthetic	572

SURGERY OF THE HEAD AND NECK

Head

KREEMANN L. Experimental Study of the Effect of Extract of Hypophysis from Animals that have been Castrated or had the Corpora Lutea Removed	573
--	-----

Neck

SCHMIDT J. E. The Carotid Gland and Its Tumors	573
DA COSTA, J. C. Personal Experience with Tumors of the Carotid Body	574
WILSON L. B. A Study of the Pathology of the Thyroids, from Cases of Toxic Non Exophthalmic Goiter	574
LEWIS W. H. Juvenile Hyperthyroidism	575

SURGERY OF THE CHEST

Chest Wall and Breast

EDEN R. Surgical Treatment of Pulmonary Tuberculosis, Especially Collapse Treatment	575
---	-----

Trachea and Lungs

MAYER, W. Bronchiectasis	576
Pharynx and Esophagus	
GREEN N. W. An Esophagoscope with Direct Outside Illumination	576

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum

HARTMANN J. Sensitiveness of the Peritoneum and the Abdominal Fascia	577
--	-----

HIBANO T. Practical Experience in the Use of Horse Serum to Increase the Resistance of the Peritoneum to Infection	577
CRÉDÉ, B. Antiseptic Treatment of Peritonitis	577
LEBEDOFF G. I. Menge's Radical Operation for Hernia of the Linea Alba	577
LANDMANN K. Menge's Radical Operation for Umbilical Subumbilical Epigastric, and Post-Operative Hernias of the Linea Alba	577

Gastro-Intestinal Tract

RODMAN W. L. Gastric Tetany	578
COLE L. G. The Positive and Negative Diagnosis of Gastric Cancer by Means of Serial Röntgenography	578
COLE L. G. The Diagnosis of Post-Pyloric or Duodenal Ulcer by Means of Serial Radiography	578
KOLB, K. Wilms' Method of Ligating the Pylorus with Fœtal Ligamentum Teres and Omentum as a Substitute for Unilateral Exclusion of the Pylorus	579
WHEFFLE G. H. STONE, H. B. AND BERNHARD, B. M. Intestinal Obstruction III. The Defensive Mechanism of the Immunized Animal against Duodenal Loop Poison	579
WHEFFLE, G. H. STONE, H. B. AND BERNHARD, B. M. Intestinal Obstruction IV. The Mechanism of Absorption from the Mucosa of Closed Duodenal Loops	579
HAUSMANN T. Different Forms of Cecum Mobile	579
SOVENBERG E. Changes in Views Regarding Appendicitis	580
ADAMS, J. G. Chronic Intestinal Stasis, A to Intoxication and Subinfection.	580
CASE J. T. The Röntgenologic Findings in Malignant Obstruction of the Colon	581
LARDENON G. AND ORLÉANS J. The Dissection and Preservation of the Great Omentum in Total or Partial Colectomy	582
MAYO, C. H. Factors of Safety in Intestinal Surgery	582
Liver, Pancreas, and Spleen	
THOMPSON J. E. Pleural and Pulmonary Complications in Tropical Abscess of the Liver	582

- COLE, L. C. The Röntgenographic Diagnosis of Gall Stones and Cholecystitis 583
- ERRINGER, H. Pathology of the Function of the Spleen 583
- Miscellaneous**
- KAWASOY, Anatomical Changes in the Abdominal and Thoracic Organs, Especially the Peritoneum in Animals, after the Intraperitoneal Injection of Camphorated Oil 584
- SURGERY OF THE EXTREMITIES**
- Diseases of the Bones Joints, Muscles Tendons Conditions Commonly Found in the Extremities.
- WILEY, A. O. Injuries of the Periosteum, with Special Reference to their Relations to the Pathology and Repair of Fractures of the Bones 584
- NOFF JOSEPH, G. Radiography of the Bones and Joints Its Value in Orthopedic Surgery 584
- NOVAK, J. AND POSNER, O. The Acidity of the Blood in Osteomalacia 585
- ACHALSE, Bone and Joint Syphilis 585
- OLRY, F. D. Report of Case of Acute Epyhyitis of Femur Treated First for Rheumatism 586
- TYLER, A. F. Cysts of Bone 586
- PARRIS, M. Multiple Osteogenic Exostoses Accompanied by Arrested Development and Deformities of the Skeleton 586
- JOYCE, D. W. C. A Case of Chronic Joint Lesions in Hemophilia 586
- AMIRATZIS, G. Primary Sarcoma of Muscles 587
- WELL, S. Peritendinous Angiomas 587
- Fractures and Dislocations**
- STOCKELER, W. Fractures of the Head and Neck of the Radius 587
- MICHAELS, J. R. The Frequency and Significance of Injuries to the Acromion Process 587
- SCHWABE, E. Fracture of the Neck of the Femur in Children 588
- SEYMOUR, E. H. The Mathematical Calculation of Prognosis in Fractures at the Ankle and Wrist 588
- WATKINS, Treatment of Recurrent Dislocation of the Shoulder by the Frisch Clamont Method 588
- Surgery of the Bones Joints Etc**
- SHREVE, W. Some Observations on the Operative Treatment of Fracture by Metal Plates and Screws 589
- PHILLIPS, C. F. Fixation of Fractures by Means of Antigenous Intramedullary Bone Splint 589
- FAYRETT, P. Hollowing Out the Tarval Bones in the Treatment of Congenital Talipes Equinovarus 589
- McWILLIAM, C. A. The Excision of the Periosteum in Bone Transplantation Based on Four Human Transplants without Periosteum and Some Animal Experiments. 589
- LE JEMTEL, Intramedullary Graft for Pseudarthrosis of the Diaphysis of the Tibia 590
- HIEBERGER, F. Mobilization of the Shoulder and Elbow Joints by the Transplantation of Joint Ends 590
- LEWIS, D. D. AND DAVIS, C. B. Repair of Tendons by Tissue Transplantation 59
- STOFFEL, A. New Points in Tendon Transplantation 591
- Orthopedics in General**
- MEYER, R. O. Some Orthopedic Conditions in the Neighborhood of the Shoulder Joint 59
- MARSH, Little's Disease Treated by Van Gehoven's Operation 592
- BASSETT, Schlatter's Disease 593
- LEO, W. Henne-Medina Disease and Its Relation to Surgery 593
- LOWMYER, C. L. Relation of Foot and Leg Muscles to the Statics of the Body 593
- SURGERY OF THE SPINAL COLUMN AND CORD**
- MEYER, R. O. The Correction of the Fixed Structural Type of the Spinal Lateral Curvature 594
- JANSEN, M. Physiological Scoliosis and Its Causes. 594
- CALOT, Treatment of Scoliosis by Abbott's Method 593
- OFFENHEIM, H. Diagnosis and Differential Diagnosis of Tumors of the Spine 595
- MAYER, L. Encephaloma of the First Cervical Vertebra Compression of the Cord Laminectomy Recovery 596
- LESTACHY, W. M. Glioma of the Cauda Equina 597
- SURGERY OF THE NERVOUS SYSTEM**
- ROCHET AND LATAPET, Surgical Methods of Approach to the Hypogastric Plexus and its Ganglion 597
- DISEASES AND SURGERY OF THE SKIN FASCIA, APPENDAGES**
- COLE, D. H. Burnth Paste as a Primary Dressing for the Grafts and in the Treatment of Burns and Granulating Wounds 598
- SMITH, O. C. Hygroma Cysticum Collis and Hygroma Cysticum 598
- MARSH, JOSEPH, J. Fascia Tumors 598
- CHERTZ, H. H. Fascia Lata as a Substitute for Tendons and Ligaments 599
- MISCELLANEOUS**
- Clinical Entities—Tumors, Ulcers, Abscesses, Etc
- GRUBB, W. Trepanoma and Tumor 599
- CLIMISTO, C. G. Diabetes and Surgical Operations 600
- KRAUS, F. Diabetes and Surgery, Short Report Containing Also the Views of Leon A. Myron and Leon Minkowski, Payr 600
- LANBERT, A. J. S. AND FOSTER, N. R. The Dietetic Treatment of Gangrene in Diabetes Mellitus 600
- JANUARY, H. H. AND ENGLISH, F. M. The Nature of Shock 60
- PETZOLD, A. N. The Life of the Tissues Outside the Main Organism 602

- WALTON A J On the Survival and Transplantability of Adult Mammalian Tissue in Simple Plasma 602
- WALTON A J The Technique of Cultivating Adult Animal Tissues in Vitro and the Characteristics of Such Cultivation 602
- CASTAGNE TOURAINE AND FRANÇOIS Severe Tetanus Large Doses of Serum Recovery 603
- Sera Vaccines and Ferments
- BOAS H The Wassermann Reaction with Special Consideration of Its Clinical Availability 603
- DÖPFER AND PAUROM Treatment of Gonorrheal Arthritis and Gonorrheal Orchitis with Desreka's Sensitized Antigonococcus Vaccine 603
- Blood
- HILSE, A F Transplantation to Control Hemorrhage from Abdominal Organs 603
- CROTTI, A Indirect Transfusion of Blood 604
- Blood and Lymph Vessels
- BUNTING C H AND YATES, J L An Etiologic Study of Hodgkin Disease 604
- Surgical Therapeutics
- SSOALOFF I A Effect of Collargol on Infection 604
- BECK E G The Present Status of Bismuth Paste Treatment of Suppurative Sinuses and Empyema 605
- FETTERWALD R The Diagnostic Value of Intravenous Injections of Arthigen 606
- Electrology
- FREUND, L Irradiation and Surgical Treatment of Malignant New Growths 606
- HOLDING A F Technique in Radiotherapy with Especial Reference to Deep Therapy Practiced at Freiburg by Krönig and Guss 606

GYNECOLOGY

- Uterus
- SCHEMOTO T Pharmacological Testing of the Cervix 607
- VON WINTHARTER, A F R Distribution of Erythrocytes in the Non-Striated Musculature of the Uterus 607
- BECKMANN W G Mixed Mesodermal New Growth of the Cervix 607
- BLACKBURN G The Value of Exploratory Curettage in the Diagnosis of Carcinoma of the Body of the Uterus 607
- KETTLER H Radium Treatment of Cancer of the Uterus 608
- CHÉRON H AND RUBENS DUVAL, H The Value of Radium in the Treatment of Uterine and Vaginal Cancer 608
- SCHAFER F Radium and Mesothorium in Carcinoma of the Cervix 608
- BERZEL Röntgen Ray Treatment of Myomata 609
- PHILIPS T B Myoma and Sterility 609
- ALEXANDER ROFF I A Treatment of Fibromyoma of the Uterus with Röntgen Rays 609
- MCGILVER J A The Heart in Fibroid Tumors of the Uterus 609
- ARÖVING Röntgen Rays, Radium and Mesothorium in the Treatment of Uterine Fibroids and Malignant Tumors 610
- GILES, A E A Plea for Early Operation in Cases of Uterine Fibroids 611
- MAPES C C Infantile Menstruation 611
- CRAMER, H Radical Operation for Prolapse 611
- KRAUZZ, L Operative Treatment of Prolapse of the Perineum 611
- HARRIS, S H Ventrofixation of the Uterus with Report of Two Cases of Dystocia 612
- MAMOLEIAN, M The Radical Cure of Prolapsed Uterus in Elderly Women 612
- VA TELIEM E A The Causes of Retroflexion 613
- MENDES DE LIMA M A Alexander Adams Operation 613
- SIGWART W Avoiding Peritonitis in the Operative Treatment of Rupture of the Uterus and Perforating Wounds of the Uterus 613
- BREITSTEIN, L I Rupture of the Uterus Following Cesarean Section 614
- NEBESKY O Treatment of Complete Rupture of the Uterus 614
- Adnexal and Peritoneal Conditions
- ESLER, R Ovarian and Paraovarian Tumors 615
- DJEDOFF W P Bilateral Ovarian Cyst, Complicated by Right-Sided Extra-Uterine Pregnancy Operation Recovery the Fertilization of the Ovary Causes of Extra-Uterine Pregnancy 615
- BARR, S A Case of Right Inguinal Hernia of the Ovary and Tube 615
- ELSTACE A B, AND MCNEELY, R W Case of Strangulated Tubo-Ovarian Hernia in an Infant 615
- FRANKEL, M Dissolution of Parametric Adhesions by Röntgen Rays 616
- External Genitalia
- KÜSTER, H The So-Called Cysts of the Vagina 616
- LEED, G Leiomyoma of the Urethra-Vaginal Septum 616
- SINCLAIR J F Incontinence in Vulvovaginitis 616
- SMITH G G The Treatment of Gonococcus Vulvovaginitis with Further Observations on the Value of the Complement Fixation Test in Management of This Disease 616
- TWEEDY, E H Laceration of the Perineum and Their Treatment 617

Miscellaneous

- FELLNER O O Experimental Study of the Effect of Tissue Extracts from the Placenta and Female Sexual Organs on the Genital Organs 618
- SCHRODER R.: Time Relation Between Ovulation and Menstruation also a Study of the Corpus Luteum 618
- HACER H Use of Gonococcus Vaccine in Gynecology for Treatment and Differential Diagnosis 619
- HORWITZ, R. E., AND ORLOWSKY N A Giant Tumors of the Female Genitalia 619

- STEECK, P Operation for Incontinence of Urine and Severe Genital Prolapse 619
- NOVAK J Effect of Removal of the Adrenals on the Genital Organs 620
- CHOLEDKOWSKI, A M One Thousand Laparotomies, Abdominal and Vaginal 620
- LOUGER, F Cases of Death after Gynecological Operations, from 1901-1911 621
- PERLIN H Radium Treatment in Gynecology 621
- RECAISSER S Organotherapy in Gynecology 621
- VON FRANQUE O Spl F Ivis Duplication of the Internal Genitalia 621

OBSTETRICS

Pregnancy and Its Complications

- HEAR, E. Extract of Hypophysis in Placenta Previa 623
- HARRAN J A Efficient Methods in the Treatment of Placenta Previa 623
- KELLER, R Changes in the Follicles of the Ovary During Pregnancy 623
- LEIBACH, M Heart Disease and Pregnancy 623
- WEISE, F Carcinoma of the Uterus, and Pregnancy 624
- REISMAN, W Treatment of Pyelitis During Pregnancy by Irrigating the Pelvis of the Kidney 624
- MANN Glycosuria of Pregnancy Form of Renal Diabetes 624
- NOV K, J FORGES, O AND STRAUSS, R. A Icteric Form of Glycosuria in Pregnancy and Its Relation to True Diabetes I Glycosuria of Pregnancy 625
- JAMPEL, F Psychic Disturbances in Pregnancy 625
- CURTIS A H Complication of Pregnancy Treated by Section of Blood of Normal Pregnant Women. 625
- NICHOLSON W R The Extraperitoneal Cesarean Section Its Place in Obstetrics 626
- VATES O F Thrombosis of Placenta 626
- LEIGHTON A P The Cause of Eclampsia 626
- ARISTO C K Eclampsia with Total Absence of Albumin but Generalized, Hard Edema 626
- SEABO D Artificial Abortion 626
- MEYER, L Induction of Abortion in Psych Disturbances 627

Labor and Its Complications

- FEELAND J R The Relationship Existing Between the Mechanism and Management of the Third Stage of Labor 627
- DEHNEN A Delivery in Contracted Pelvis 627
- ECK, P: Effect of Contracted Pelvis on Delivery of Normal Head Presentations 627
- CRUE I Treatment in Delivery in Contracted Pelvis in Baset 628
- BAKER H Rupture and Fracture of the Membranes and Structure of the Cervix 628
- FOLLET H H Unusually Large Tumor of Child, Complicating Delivery 629

- SOLOWY A An Unusual Cause of Spontaneous Rupture of the Uterus During Delivery 629
- NEESKY O Rupture of the Cord During Labor 629

Puerperium and Its Complications

- GATLE W C The Normal Position During the Puerperium a Cause of Retroversion Uteri 630
- LEIDERTZ L Effect of Disinfection of the Parturient Woman on the Bacterial Content of the Uterus During the Puerperium 630

Miscellaneous

- PARVE A K Serodiagnostics of Pregnancy Review 630
- NALMAN Experiments in Demonstrating Pregnancy by Means of Abderhalden's Diastase 631
- SCHOLZ, H Rosenthal's Diagnosis of Pregnancy 631
- WARFIELD, L M Presence of Dialyzable Products Reacting to Abderhalden's Antidote in the Urine of Pregnant Women 631
- HAYNICH The Roentgen Diagnosis of Separation of the Upper Epiphysis of the Humerus in Birth Palsy 631
- BALLANTYNE, J W The Nature of Pregnancy and Its Practical Bearings 631
- LA TUSSE, A ORK C The Influence of Pregnancy and Labor on the Mortality from Tuberculosis Among Women 632
- PETERI T H Histology of the Amnion and Origin of the Fibrinous Structures 632
- BRADY J The Patency of the Cervical Canal and the Os of the End of Pregnancy 632
- FELT F The Capacity of the Mammary Glands for Regeneration after Pregnancy 632
- KLOTZ, M The Effect of Birth Trauma on Mental and Bodily Development 632
- BOYCE J The Weight of the New-Born not Dependent on the Mother's State of Nutrition 633
- YIPPO A Icterus Neonatorum and the Secretion of Bile Pigment in the Fetus and New-Born 633
- BALLANTYNE, J W Antenatal Hygiene 633
- HUTCHINGS J L Antenatal Hygiene Relation of the Hospital to the Hygiene of Pregnancy 633

GENITO URINARY SURGERY

Kidney and Ureter

- FOWLER, O S Ureteral Obstruction Causing Urinary Stasis a New Etiology in Kidney-Stones, with a New Method of Nephropexy to Secure Ideal Natural Drainage 634
- MURARD, J Value of Surgical Treatment in Bright's Disease 634
- WALKUP, J O Hemorrhagic Hybernephritis with Report of Case 634
- KEYES, JR, E L Concerning Apparent Cures of Renal Tuberculosis 635
- RELIKOFF-SCHTOMITSCH Diagnosis of Paraneuritis 635
- LUTZKE, J Albarran-Marion's Method of Nephropexy 635
- POST, W E The Effect of Tartrates on the Human Kidney 635
- WAKE, M W The Futility of Phenolsulphonaphthalein as an Indicator of Renal Function 636
- BEER, E Leukoplakia of the Pelvis of the Kidney and Its Diagnosis 636
- BRASCH, W F Infections of the Renal Pelvis and Ureter 636
- ADLER, H Choice of Operation in Impacted Calculi of the Ureter 637
- DALENCOV, R Therapeutic Applications of Catheterization of the Ureters 637
- Bladder Urethra and Penis
- GERARD, M Injuries of the Bladder by Impalement 638
- GOURNOU, P Calculi of Diverticula of the Bladder 639
- MARION, G Resection of Diverticula of the Bladder 639
- HETTE-BOYER, M Mixed Treatment of Certain Tumors of the Bladder 639
- MCDONALD, S AND SEWELL, W T Malakoplakia of the Bladder and Kidneys 640

- BAUREISEN, A An Unusual Parasite of the Female Bladder 641
- PAOLI, G Cystitis with Incrustation 641
- BURGER, L Simple Ulcer of the Bladder 642
- Genital Organs
- DORRANCE, G M A Transverse Incision for Operation on the Scrotum 642
- MCGLENNAN, A The Conservative Treatment of Undescended Testicle 642
- SCHÄFER, A Technique of Orchidopexy 642
- CODMAN, E A AND SHELDON, R F The Prognosis of Sarcoma of the Testicle 643
- GOODMAN, A L Tuberculosis of the Testicle 643
- BUGBEY, H G Further Observations on the Use of the High Frequency Spark for the Relief of Prostatic Obstruction, in Selected Cases 643
- BRYAN, R C Prostatic Hypertrophy and Its Relief by Surgical Measures 644
- FREYER, F J Cancer of the Prostate 644
- LEGUY, MOREL, MARION TRÉVENOT AND GAYET Surgery of the Prostate 644
- LOWER, W E A Technique for Performing a Shockless Suprapubic Prostatectomy 645
- ALLEY, C W Prostatectomy under Local Anesthesia 645
- Miscellaneous
- GAILLARD, A T Modern Laboratory Methods of the Diagnosis of Surgical Diseases of the Genito-Urinary Tract 646
- NICOLLE, C, AND BLAISOT, A Non-Toxic Antagonistic Vaccine and Its Use in the Treatment of Gonorrhea and Its Complications 646

SURGERY OF THE EYE AND EAR

Eye

- MULLER, J A Case of Melanotic Sarcoma of the Choroid 647
- MYERS, D W Cataract Extraction in the Capsule without Incision 647
- CROSS, A E Simple Chronic Glaucoma 647

Ear

- GOLDSBACH, L J Squamous Epithelioma of the Middle Ear and Mastoid 647
- TOMLIN, W S Mastoiditis a Complication and an Etiology 647
- BRASLEY, W C The Use of Vaccines in the Mastoid Operation 648

SURGERY OF THE NOSE THROAT AND MOUTH

Nose

- OFFENHEIMER, S The Surgical Anatomy, Diagnosis, and Treatment of the Inflammatory Affections of the Nasal Accessory Sinuses in Children 649
- BUCK, J C Histologic Pathology of the Accessory Sinuses 649

Rhinology

- RAU, E Diseases and Pathology of Nasal Accessory Sinuses 649
- DABNEY, S G Symptoms and Diagnosis of Diseases of the Nasal Accessory Sinuses 649
- STUCKY, J A AND W. S. Treatment of Diseases of the Nasal Accessory Sinuses, Surgically and Otherwise 649

MacFARLANE D The Initial Incision in the Submucous Operation	650	ROBERTS, W H Tonsillectomy in the Upright Position under Ether	650
MacKENZIE, G W Complications that May Arise During or After the Submucous Operation for the Correction of Septal Deviations	650	JONESSTON R. H Straight Direct Laryngoscopy Bronchoscopy and Oesophagoscopy	650
CARTER, W W Operations for the Correction of Deformities of the Nose	650	Mouth	
Throat		BLAKEWAY H The Treatment of Harelip and Cleft Palate	65
DARNEY V Immediate and Remote Sequel of Radical Removal of the Fauical Tonsil Observation of Two Hundred Cases	650	DEAN L W Report of a Case of Compound Follicular Odontoma of the Superior Maxilla	651

BIBLIOGRAPHY

SURGICAL TECHNIQUE		MISCELLANEOUS	
Operative Surgery and Technique	65	Clinical Entities—Tumors, Ulcers, Abscesses, etc	665
Aseptic and Antiseptic Surgery	651	Sera, Vaccines, and Inoculations	665
Anæsthetics	651	Blood	666
Surgical Instruments and Apparatus	653	Blood and Lymph Vessels	666
		Poisons	667
SURGERY OF THE HEAD AND NECK		Surgical Therapeutics	667
Head	653	Electrology	668
Neck	654	Military and Naval Surgery	668
SURGERY OF THE CHEST		GYNECOLOGY	
Chest Wall and Breast	655	Uterus	669
Trachea and Lungs	656	Adnexal and Peritoneal Conditions	670
Heart and Vascular System	656	Fetal and Cerebral	67
Pharynx and Oesophagus	656	Miscellaneous	671
Miscellaneous	657		
SURGERY OF THE ABDOMEN		OBSTETRICS	
Abdominal Wall and Peritoneum	657	Pregnancy and Its Complications	672
Gastro-Intestinal Tract	658	Labor and Its Complications	67
Liver, Pancreas and Spleen	659	Puerperium and Its Complications	673
Miscellaneous	660	Miscellaneous	673
SURGERY OF THE EXTREMITIES		GENITO-URINARY SURGERY	
Diseases of Bones, Joints, Muscles, Tendons		Kidney and Ureter	674
General Conditions Commonly Found in the Extremities	660	Bladder, Urethra and Penis	675
Fractures and Dislocations	66	Genital Organs	676
Surgery of the Bones, Joints, etc	66	Miscellaneous	676
Orthopedics in General	662		
SURGERY OF THE SPINAL COLUMN AND CORD	663	SURGERY OF THE EYE AND EAR	
SURGERY OF THE NERVOUS SYSTEM	664	Eye	677
DISEASES AND SURGERY OF THE SKIN, FASCIA, APPENDAGES	664	Ear	677
		SURGERY OF THE NOSE, THROAT AND MOUTH	
		Nose, Throat and Mouth	678

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OF THE ORIGINAL CONTRIBUTIONS WHICH ARE ABSTRACTED IN THIS NUMBER

- Adams, J G 580
 Adler H 637
 Alexandroff I A 609
 Allen C W 615
 Amunategui G 587
 Auzi C A 626
 Arthausen 585
 Ballou D C 572
 Brilliantyn J W 631 633
 Barr A S 65
 B meta 593
 B were ven A 64
 Ber E G 605
 Beck J C 649
 Beckmann, W G 607
 Beer F 636
 Belikoff Schtomutach 635
 Berdes 600
 Bernheim B M 579
 Blaurot 646
 Blackaway II 651
 Boas, II 603
 Bondi J 631
 Brusch W F 636
 Bruns W O 648
 Braude J 63
 Brat tein L I 64
 Bryn R C 644
 Bueyger L 64
 Bugbee II C 643
 Bunting C H 604
 Burckhard G 607
 Calot 595
 Carter W W 650
 Case J T 581
 Castaigne 603
 Cheron H 608
 Cholezkow k A M 620
 Codrini L A 643
 Coerr I H 598
 Cole L G 578 583
 Crauser, H 6
 Credé B 577
 Cross A E 647
 Crotti, A 604
 Cunston C G 600
 Cury I 618
 Curtin, A H, 625
 Dabney S G 649
 D bney V, 650
 Da Costa, J C 574
 De lencon R 637
 Davis, C B 59
 Dew L W 65
 Dyedoff W F 65
 Dwyer 603
 Dorra ce G M 64
 Duhrssen A 67
 Eden, R, 575
 Eusebach M 63
- Ekler R, 65
 Fppinger II 583
 Esch P 637
 Eustace A B 65
 Ewing E M 607
 F eret P 589
 Felloer, O O 68
 Follitt H II 679
 Foster N B 600
 Fowler O S 634
 Franckel M 66
 François 601
 Greenland, J K 627
 Freund L 606
 Freyer P J 644
 Fruhwald R 606
 Fulci, I 632
 Galliard, A T 646
 Gayet 644
 Gayler W C 630
 Gérard M, 638
 Gierst K H 599
 Giken, A F 61
 Glenn E B 586
 Goldbach L J 647
 Goodman A L 643
 Go rou P 649
 Graef W 599
 Green V W 576
 Haeusch 63
 H ara J A 623
 Harris, S II 61
 Hartmann J 577
 Hauser II 69
 Hausmann, T 579
 Heits Boyer M 639
 Henderson I 572
 Herz, E 63
 Herzberg F 599
 Hils A 603
 Hirano T 577
 Holding A I 606
 Horwitz R E 619
 Hunt igiton J I 633
 Jahnel T, 65
 Janeway, II II 60
 Jansen M 594
 Joh ton R H 65
 Jones D W C 586
 Kawasoy 584
 Keitler II 608
 Keller R 623
 Keyes, Jr E L 635
 Kleemann E 573
 Klotz, M 63
 Kolb, H 579
 Kraus, I 600
 Krause, L 6
 Kring, 6
 Kuster II 66
 Lambert A V S 600
- Landmann K 577
 Lardennou, G 582
 Latapet 597
 Lebedeff G I 577
 Legues 644
 Lendenius, L 630
 Leighton A P 626
 Le Jemtel 590
 Leo W 591
 Lerda G 66
 Lezysnky, W M 597
 Lewis, D D 591
 Lewis, W H 575
 Loliger F 621
 Lower W E 645
 Lowman C L 593
 Luzur J 635
 Macfarlan D 650
 Mackenzie G W 650
 M mournan M 62
 M n 64
 Mapes, C C 6
 Marion, 644
 Maroon G 639
 M rquis, 59
 Massenbacher J 598
 M yer L 596
 Mayo, C II 582
 M Donald S, 64
 McGlenn, A 64
 McGinn J A 609
 McNeely R W 615
 M William C A, 589
 Mensenbach R O 59
 594
 Mencke J B 587
 Mendes de Leon M A
 63
 M ye E 67
 Meyer W 576
 Morel, 644
 Muller, J 647
 Murard J 634
 Myers D W 647
 N umann 63
 Nebesky O, 64 629
 Nicholson W R 66
 Nicoll C 646
 Nov L, J 585, 620 65
 Nové-Josseland, G 584
 Oholsky, N A, 619
 Olmury J 58
 Oppenheim H 595
 Oppenheimer S 649
 Palne A A 63
 Paul G, 64
 Pa rou, 603
 Peham H 6
 Perrin M 586
 Pétardi T 63
 Petroff N N 602
- Philips, T B 609
 Phillips, C E 589
 Porces, O 585 65
 Post W E 635
 Rau E 649
 Recasens, S 6
 Roberts, W H 650
 Rochet, 597
 Rodman, W L 578
 Rubens-Duval, 608
 R baumen W 64
 Schifer A 64
 Scha ta F 608
 Schmidt J E 573
 Scholz, II 63
 Schröder R 68
 Schwarz L 588
 Sewell, W T 640
 Sheen W 589
 Sheldon R F 643
 Sigwart W 63
 Sinclair J F, 66
 Skinner L H, 583
 Smith G G 66
 Smith, O C 598
 Solowij, I 629
 Sonnenburg E 580
 Sokoloff, I A 604
 Steffek P, 69
 Steedlin W 587
 Stoff L, A, 59
 Stone H B 579
 Stranower, R 65
 Stucky J A 649
 Stucky W S 649
 Sugnot T 607
 Sumbó, D 626
 Thévenot 644
 Thompson, J E 58
 Tomlin, W S 647
 Touraine, 603
 Tweedy E H 67
 Tyler I F 586
 Va Teutem E A, 63
 Van Tussenbroek C 63
 Verres O 626
 Von Franqué O 6
 Von W m arter A F R 607
 W lkap J O 634
 Walton A J 602
 W re M W 636
 Warfield, L M 63
 Weil S, 587
 Weise J, 64
 Weiss 588
 Whipple G H 579
 Widensky A O 584
 Wilson L B 574
 Y tes J L, 604
 Yppé, A 633
 Zweifel E 57

INTERNATIONAL ABSTRACT OF SURGERY

JUNE 1914

MONTHLY COLLECTIVE REVIEW

RECENT ADVANCES IN SPINAL SURGERY

By CHARLES A. ELSBERG M. D. NEW YORK

DURING the past few decades the surgical treatment of intracranial disease has attracted much attention. The complexity of structure of the brain, the diversity of its functions, the variety in the clinical manifestations of its diseases have made the field a very fruitful one for the investigator. Hence for a time at least too little attention was paid to the surgical treatment of the diseases of the spinal cord and its membranes. This was the more surprising because it soon became evident that the results of operative interference in spinal disease were far better than those obtained in intracranial surgery.

During the past few years, however, the interest in spinal cord surgery has become renewed. The field has become widened, the results obtained have become better and better, and the feeling of pessimism which surrounded and hedged in the surgery of the central nervous system has changed into one of optimism in respect to the operative treatment of surgical spinal disease.

It has become evident that special training and experience are necessary for successful work in this field, but that for the special worker a spinal operation is not a very dangerous one.

Technically there is little difference of opinion as to the manner in which a laminectomy should be done. The operation is usually performed under general anesthesia, that it can be done under local anesthesia has recently been again pointed out by Heidenhain (1).

The osteoplastic methods described by Marion (2), Caviechia (3), Buckham (4) have been well nigh forgotten for they are too time consuming

and too complicated and are frequently followed by wound complications. The attempt has been made by several Italian writers and by A. S. Taylor (5) to develop the operation of hemilaminectomy. The operation recommended by them consists of the removal of the laminae on one side only. They claim that a better spinal column is left and that the exposure of the spinal cord and nerve-roots is often as good as in the complete operation. It is clear, however, that the removal of the laminae on one side can not give as good an exposure as the removal of spinous processes and laminae of both sides.

A wide exposure of the operative field must be obtained in every spinal operation for the cord tissue is more delicate and irreparable damage to it is done more easily than to almost any part of the brain in an intracranial operation. Therefore most operators (Horsley (6), Krause (7), Von Liselsberg (8), Frazier (9), Cushing (10), Kuettner (11), Kocher (12), Elsberg (13), etc.) perform complete laminectomy. Elsberg (13) has paid especial attention to the functions of the spinal column after complete laminectomy and has shown that in the majority of instances, the normal mobility of the vertebral column is completely regained after a laminectomy. Nevertheless the operation of hemilaminectomy may have a field of usefulness in those cases where the spinal nerves of one side are to be divided for pain or spasticity.

SPINAL FRACTURES

The surgical significance of a spinal fracture depends to a great extent upon the injury that

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OF THE ORIGINAL CONTRIBUTIONS WHICH ARE ABSTRACTED IN THIS NUMBER

- Adams J G 580
 Adler H 637
 Alexandroff F A 609
 Allen C W 613
 Amunategui C 587
 Austin C A 626
 Aylmer, 585
 Ballou D C 572
 Balthazyme J W 631 633
 Barr A S 65
 Bassett 593
 Buerenien A 64
 Bayer H 628
 Beck E G 605
 Beck J C 649
 Beckmann W G 607
 Beer E 636
 Behlöff Schmittsch 635
 Bendix 600
 Bernheim B M 579
 Bismut 616
 Blaker y H 65
 Boss, H 603
 Bonds, J 633
 Bransch W J 616
 Brandus W O 648
 Braun J 613
 Brent i m l 64
 By n R C 644
 Buerner L 64
 Bugbee H G 643
 B n ng C H 604
 Burckhard G 607
 Calot 595
 Carter W W 650
 Case J T 58
 Castaigne 603
 Cheron, H 608
 Cholekowsky, A M 620
 Codina C A 643
 Coert, I H 598
 Cole L C 578 583
 Cramer, H 61
 Credé B 577
 Cross, A. E. 647
 Crotti A 604
 Cusumoto, C G 600
 Cury F 68
 Curtis A. H 625
 Dabney S G 649
 Dabney V 660
 Da Costa, J C 574
 Dalençon R 637
 Davis C B 59
 Dean L W 65
 Djedoff W P 615
 Dopler 601
 Dorrance C M 642
 Dührsen A 67
 Eden R 575
 Eisenbach M 63
- Ekler R 615
 Eppinger H 583
 Esch I 617
 Lustace, A B 615
 Fwing E M 601
 I veret T 580
 Fellner, O O 618
 Iolitt H H 629
 Foster N B 600
 Fowler O S 634
 Trankel M 616
 François 603
 Greenland, J R 67
 Freund, L 606
 Freyer P J 644
 Frühlwald, R 606
 Fultz, T 632
 Gaillard A T 646
 Gayet 644
 Gayler W C 630
 Gérard M 618
 Guerta K H 599
 Gules, A E 61
 Glenn I B 586
 Goldbach L J 647
 Goodman A L 643
 Gounou P 639
 Grief W 599
 Green N W 56
 Hamann 63
 Harrar J 63
 Harris S H 6
 Hartmann, J 577
 Hauser H 69
 Hausmann T 579
 Heitz Boy r W 639
 Henderson, T 57
 Herz F 63
 Herzberg T 590
 Hilde A 603
 Hirano T 577
 Holding 61
 Horwitz R F 69
 H n ntung J L 633
 Jahnelt 63
 J neway, H H 601
 Jansen J 594
 Johnston R H 650
 Jones D W C 586
 Ka asoy 584
 Keitler H 608
 Keller R 63
 Kjes, Jr E L 635
 Klemann E 573
 Klotz M 652
 Kolb A 579
 Kraus T 600
 Krause L 61
 Kroug 6
 Küster H 66
 Lambert A V S 600
- Landmann K 577
 Lardennous G 58
 Latarjet, 597
 Lebedeff G I 577
 Legueu, 644
 Leiden A L 630
 Leighton, A F 66
 Le Jentel 590
 Leo W 593
 Lerda G 66
 Leszynsky W M 597
 Lewis D D 591
 Lewis, W H 575
 Löfger T 61
 Lower W E 645
 Lowman C L 593
 Luzzo J 615
 MacFarlane D 630
 MacKenzie G W 630
 Mamourian M 6
 Mann 624
 Mapes, C C 61
 Maron 644
 M non G 630
 M rquay, 59
 Massenbauer J 598
 M yer L 596
 Ma o C H 58
 McDonald S 610
 McClinton A 642
 McGilne J A 609
 M nely R W 615
 M Williams, C A 589
 Merensbach R O 591
 594
 Mencke J B 587
 Mendes de Leon M 4
 63
 Meyer F 67
 Meyer W 576
 Morel, 644
 Muller, J 647
 Murard, J 634
 Myers D W 647
 Naumann 63
 Nebelky O 64 639
 Nicholson W R 626
 Nicolle C 646
 Novak, J 585, 620, 63
 Nové Josseland, G 584
 Obolsky N A 619
 Okunsky J 58
 Oppenheim H 595
 Oppenheimer S 649
 Paine A K 630
 Paoli, G 64
 Pauron 603
 Peham, H 6
 Perrin, M 586
 Peters T 63
 Petroff N N 60
- Philips T B 609
 Phillips C E 589
 Porges, O 585 65
 Post W E 615
 Rau L, 640
 Recasens S 61
 Roberts W H 650
 Rocher 597
 Rodman, W L 578
 Robens Duval 608
 Rübsamen W 624
 Schäfer A 64
 Schauta F 608
 Schmidt J E 573
 Scholz, H 63
 Schröder R 68
 Schwarz T 588
 Sewell W T 610
 Sheen W 580
 Sheldon R F 643
 Sigwart W, 63
 Surlar J J 66
 Skinner, J H, 588
 Smith G C 616
 Smith O C 595
 Soloway A 629
 Sonnenburg, L 580
 Ewoldoff, I A 604
 Steeff P 619
 Stocklin H 587
 Stoffel A 59
 Stone H B 579
 Strömmer R 615
 Stucky J A 649
 Stucky W S 649
 Sugimoto T 607
 Szabo D 626
 Thénot 644
 Thompson, J C 583
 Tomlin W E 617
 Touraine, 601
 Tweedy F H, 67
 Tyler A F 586
 V. Tenten C A, 63
 Van Tusschenbroek C 632
 Verter, O 606
 Von Franck O 62
 Von Winiwarter A F R 607
 Waldup J O 634
 Walton, A J 602
 Ware M H 636
 Warfield L M 63
 Weil, S 587
 Weiss, 585
 Whipple G H 579
 Widenky A O 584
 Wilson L B 574
 Yates J L 604
 Ylppö, A 633
 Zwenfel E 57

ning and dissociation of sensations may occur with extramedullary tumors and root pains are not so rare in intramedullary disease. This has been pointed out by Schultz (31) Ropke (32) Rothmann (33) and others. The X ray is only of negative value for the diagnosis of spinal tumor although absorption of bone may occur with extramedullary and extradural growths. The fluid obtained by lumbar puncture is often of a yellow color with an increased amount of globulin and a normal number of cells (Nonne (34) Kaplan (35) Raven (36)).

A number of authors have warned against too great a reliance on the Wassermann reaction for a patient with lues may also have a spinal tumor (Castelli (37) Elsberg).

The results that can be obtained by the operative removal of spinal tumors vary with the location of the growth its connections with the cord and with the duration of and the number of the symptoms. The patient should be referred to the surgeon early before cord symptoms have long existed. Then a complete recovery can occur as in cases reported by Rothmann (33) Van Gehuchten and Lambotte (38) Hecht (39) Frazier (40) Babinski (41) Pussep (42) Martius (43) Kennedy (44) Clarke (45) Bovard and Shlapp (46) Hunt and Woolsey (47) and others. If a paraplegia has existed for a longer time—six months to two years—the outlook for complete recovery is not so good. Considerable power may return in the paralyzed limbs but more or less spasticity weakness and sensory disturbances will remain as in the patients of Rothmann (48) Pussep (42) Rotstadt (49) Schultze (31) Nonne (34) Redlich (50) and Sato (51). If the paralysis has existed for a number of years, no improvement will follow the removal of the tumor (Van Gehuchten and Lambotte (38) Pussep (42) etc.).

Up to within the last few years intramedullary growths were considered hopeless, but it has been shown that localized growths occur within the cord substance and that these can be removed if the proper method be followed. Successful operations have been reported by Ropke (32) Von Eiselberg (52) Schultze (31) Elsberg and Beer (53) Elsberg (54) Foerster (55) and others. Some good results were obtained by incision of the cord and peeling out of the tumor but usually such manipulations have caused a transverse lesion of the cord. In the case of Ropke (32) a tumor was found which was partly intra and partly extramedullary. There were two extramedullary masses which were connected by an intramedullary growth. The cord

was incised longitudinally the entire growth easily removed, and the patient was much improved after the operation.

In order to do away with all manipulation of the cord, Elsberg and Beer devised the method which they called delivery of the growth by extrusion. In this method the cord is incised near the posterior median septum down to the tumor and the muscles fascia and skin closed. The tumor is gradually pushed out of its bed in the cord so that at the second operation about one week later it is found to lie outside of the cord tissue so that it can be removed without injury to the cord. This method of extrusion allows the processes of nature to push out the tumor in the attempt to equalize pressure conditions. The authors reported two cases and Elsberg has recently reported eight operations with marked improvement in a number of instances.

Patients with malignant disease of the bodies or arches of the vertebrae should not be subjected to operation or if malignant disease is found the operation should be concluded as rapidly as possible. Rarely can the disease be radically removed relapse or recurrence is the rule. The patients usually stand the operative interference badly and collapse upon the operating table is not infrequent. The spinal cord symptoms are often due to a transverse myelitis and not to a compression of the cord by the new-growth. Therefore the attempt to relieve the symptoms by a laminectomy is a failure in most instances the operation is not even a palliative one (Van Gehuchten and Lambotte (38) Pussep (42) Rotstadt (49) etc.).

INTRAMEDULLARY SURGERY

Rothmann (48) has published an interesting paper on the future of intramedullary surgery and has given a good resumé of what has been accomplished up to the present time. Not only have intramedullary growths and foreign bodies been removed from the substance of the spinal cord but the cord has been incised for irremovable infiltrating tumors (Cushing (56) Elsberg (57)). An incision has been made in the posterior columns near the posterior median septum as a decompressive method in edema secondary to trauma (Allen (22)) in gliosis (Elsberg (57)) for the drainage of hydromyelia (Abbe (58) Elsberg and others) and intramedullary cysts.

Spiller and Martin (59) have suggested that the anterolateral tracts can be divided in order to relieve persistent pain due to malignant disease. There was great improvement in their

patients as well as in a patient of Beer (60) and Foerster (61). The cord is exposed in the usual manner and the anterolateral ascending tracts which convey sensations of pain and of temperature are divided by an incision of about two millimeters depth. If the operation is carefully done and not too much of the cord divided no symptoms are caused by the incisions excepting a loss of all sensation for hot and cold and for pain below the level of the incision.

DIVISION OF POSTERIOR SPINAL ROOTS FOR SPASTIC PAIN AND VISCERAL CRISIS OF TABES

A totally new field for spinal surgery was opened up a few years ago (1908) when Foerster (62) published his first paper on division of the posterior spinal roots to relieve spastic conditions of the extremities. He based his procedure upon the following facts: Muscle tone is produced by reflex stimuli from the periphery to the cells of the gray matter of the spinal cord and is controlled and regulated by inhibitory influences from higher centers. Increased spasticity of muscles will therefore occur whenever the inhibitory impulses from the brain are cut off by disease of some part of the motor tract. In order to diminish the ensuing spasticity it is only necessary to cut off some of the impulses from the periphery. Many writers have published reports of cases treated according to Foerster's idea and Foerster (63) has collected a large number of cases which have been subjected to posterior root division. He also reviewed the subject of division of posterior spinal roots for the relief of painful affections, and based on theoretical considerations suggested posterior root section for the control of the visceral crises of tabes.

Not all spastic conditions can be relieved by Foerster's operation. The process must be stationary and progressive disease should never be operated upon. In the cerebral diplegia of children—Little's disease—spasticity after injury to the corticospinal multiple sclerosis the method may be tried, but in posthemiplegic spasticities with athetosis no result has been obtained. A prolonged after-treatment is always necessary in order to overcome contractures and to develop the muscles and to remove and tendon plasticities are often required. The intelligent help of the patient is indispensable therefore idiotic children should not be operated upon.

Rather too many than too few roots should be divided, although the division of too many roots may cause a flaccid paralysis. Foerster has

collected 159 operations for spastic conditions with 14 deaths from the laminectomy. The results of root section are better in the lower than in the upper extremities. For the lower limbs the second, third, fourth, or fifth lumbar and the first or second sacral roots should be cut. Extension at the knee is controlled either by the third or fourth posterior root; the operator must determine by electrical stimulation of the exposed roots which is the one that controls this extension and then divide that root. Tachuti (64) saw great improvement after division of the second, third and fourth lumbar and first sacral. Clarke and Taylor (65) advise some combination of the first, second, third, fourth, and fifth lumbar and the first and second sacral for the lower and the fourth, fifth and seventh cervical and first dorsal for the upper extremity. Cuneo saw great improvement after section of the third and fourth lumbar and first and second sacral.

The spasticity is often much lessened at once (Foerster (66), Culeke (67), May (68), Rausenbich and Scott (69) etc.) but usually improvement follows slowly after massage exercises etc.

If too few roots have been divided the spasticity will recur if more than two successive roots have been cut some sensory disturbances, according to Sherrington's law will occur. Taylor has cut five roots in succession without observing any sensory disturbance and others have failed to find sensory loss after division of three successive roots.

The operation of division of posterior spinal roots for the relief of pain is an old procedure which was originated by Dani and Abbe but the results in the past have been unsatisfactory and only 17.5% of the patients operated upon within the past two years have been relieved by the interference.

The third indication for posterior root section, according to Foerster are the visceral crises of tabes and Foerster (63) has collected 63 operations with 6 deaths. Of the surviving 58 patients there was immediate relief in 56 but the symptoms soon returned in 18 cases. At first Foerster advised that the seventh to tenth dorsal roots should be cut on each side but later he declared that all the roots from the fifth dorsal to the twelfth dorsal had to be divided. The more extensive the root section the larger the laminectomy that has to be done and when a large number of roots have to be cut very many laminectomies have to be performed. Great relief has been observed where only a few posterior roots have been cut (Bramwell and Thomson (70)) seventh to tenth dorsal—complete relief for fourteen

months Frazier (71) seventh to ninth dorsal—
cure Foerster (72) seventh to tenth dorsal—
relief for three years)

For posterior root section most operators prefer a complete laminectomy and divide the roots intradurally (Foerster (63) Von Angerer (73) Lotheissen (74) Panche (75) Winslow and Spear (76) Frazier (71) etc) but Taylor (77) prefers a hemilaminectomy Guleke (78) recommends that the roots be divided outside of the dura but the objection to this is that it is often difficult to separate the sensory from the motor root in that location Wilms (79) suggested that the roots for the lower extremity should be cut at the conus where they lie close to each other but the difficulty is that recognition and identification in that location is often impossible Franke (80) advised that the intercostal nerves be avulsed but this has given few satisfactory results although extensively tried by French surgeons (Mouriquand and Cotte (81) Sauve and Tenel (82) Cade (83) Ingay (84) Belin and Maclaure (85) Leriche (86) etc) Secard and Blanc (87) declare that Franke's operation is of no value

Posterior root section has been tried for a number of other conditions Mayesina (88) claimed to have seen great improvement in a case of erythromelalgia after division of the fourth and fifth lumbar and first and second sacral posterior roots Leriche (89) suggested that it be tried in herpes zoster but Secard and Blanc (90) obtained no result in the patients upon whom they operated the operation has been tried in spasmodic torticollis without success It has even been suggested for Parkinson's disease and ordinary paralysis agitans (Leriche) In most of these affections the operations have been done *experimentis causa* and they have therefore usually been failures

During the past decade many experiments have been made to determine whether it is possible to anastomose spinal nerve-roots and Frazier and Mills (91) have attempted to relieve a paralysis of the bladder in a patient by an intradural root anastomosis They divided the first lumbar root intradurally and anastomosed it to the third and fourth sacral Eight months later the patient had improved enough to dispense with the urinal which he had worn constantly before this time The result was therefore very satisfactory although it can not be denied that the improvement might have occurred even if no root anastomosis had been done The operation was performed 14 months after the

injury Cadwalader and Sweet (92) approached the subject experimentally but in their animals they failed to observe either a return of function or a regeneration of the nerve-roots which had been divided

Finally mention must be made of the decompressive aspects of the operation of laminectomy The relief of pressure after the free removal of a number of spinous processes and laminae must be of undoubted benefit in a number of spinal conditions associated with increased intraspinal pressure Thus great improvement has followed laminectomy for old fracture of the spine with narrowing of the spinal canal for pachymeningitis and for irremovable tumors pressing upon the cord

Bailey and Eisberg (93) have called especial attention to the improvement which may follow a laminectomy where no increase of pressure has been found and report very satisfactory results in a number of cases They suggest that the improvement may be due to the entrance of air into the dural sac or to changes in the spinal circulation

The above review of the work that has been done in spinal surgery during the last few years will show that many advances have been made and that much has been accomplished There is however much that remains to be done and the surgeon who will devote himself to this special field will find many problems awaiting solution He will meet with disappointments but will have not a few successes To the advances in our knowledge of spinal disease and its treatment the surgeon must contribute a large share We believe that the statement of a great physician may with justice be applied also to spinal disease *Die Medizin muss mehr chirurgisch werden*—internal medicine must become more surgical

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ABSTRACTS OF CURRENT LITERATURE

GENERAL SURGERY

SURGICAL TECHNIQUE

ANÆSTHETICS

Henderson T: Ether Anæsthesia. St P 1 V J
1914 By Surg Gynec & Obst

Statistics show that ether as an anæsthetic is superior to all others in safety and range of application with it the surgeon can work with more ease and rapidly because relaxation can be secured. If the patient is carefully watched and not disturbed while doing well the anæsthetist will seldom meet with alarming conditions. After the confidence of the patient is gained surgical anæsthesia ordinarily may be produced by the drop method with ether in from three to five minutes.

Suggestion plays an important part in the induction of anæsthesia. The management of the jaw has much to do with the success or failure of the anæsthetic the depth of anæsthesia depending upon the kind of operation and its stage. The patient should never be kept more deeply under the anæsthetic than is consistent with the work of the surgeon — primary anæsthesia may be used in minor operations. Experience in the Mayo Clinic does not indicate that shock is liable to be produced by light ether anæsthesia.

The dose of ether should be medicinal and not toxic. For operations the duration of which averages about forty minutes patients usually require between three and four ounces of ether to produce anæsthesia and to carry them through the operation. Preliminary medication is used only in selected cases and not as a routine.

The safety of ether is its own undoing for as it did not kill, its administration was intrusted to the most incompetent person. Then came nitrous oxide an insufficient surgical anæsthetic at best unless combined with local anæsthesia which next to ether has the widest field of usefulness. For the administration of nitrous oxide a physician with experience should be selected.

In articles in which comparisons are made between nitrous oxide and the conclusions are usually drawn from results obtained by the expert with the former anæsthetic and those of the inexperienced anæsthetist with ether. If nitrous oxide is given as carefully as ether very often there would be many fatalities. Ether given by the drop method by a skilled anæsthetist and if local anæsthesia is sufficiently full the requirement more at first than any other anæsthetic or combination of anæsthetics.

Zweifel E.: Clinical and Experimental Study of Nitrous-Oxide-Oxygen Anæsthesia (Klinisch perime telle V suche mit Lachgas-Sauerstoff Gas lose) Mtschr f Geburtsh u Gynäk 1913, xxxviii 546

By Zentralbl f d Gynäk u Geburtsh d Grenzgeb

The author describes 40 experiments with Neu's apparatus with good results and also experiments with Gritsch's apparatus which gave as good results and was much cheaper. He comes to the following conclusions. It is possible to carry out small operations without pain with either pure nitrous oxide or nitrous oxide oxygen anæsthesia. Nitrous oxide anæsthesia with or without oxygen is well adapted for beginning chloroform ether anæsthesia. Nitrous oxide-oxygen anæsthesia is increased by the administration on the previous evening of 0.5 to 1.0 veronal and by an injection of morphine scopolamine just before the operation is begun. It is the pleasantest method of inhalation anæsthesia for the patient and also the safest. If the anæsthesia is insufficient it can be continued at any time with ether or chloroform without any harm to the patient. Perrucci

Balfour D C: The Use of Novocaine as a Local Anæsthetic. St P 1 M J 1914 21 83
By Surg Gynec & Obst

That the use of local anæsthesia is growing in popularity in this country is noticeably apparent. This is probably due to the fact that superior derivatives of and substitutes for cocaine have been placed on the market. The more familiar of these are eucaine, stovaine, tropococaine, novocaine, urea and quinine hydrochloride. Novocaine is rapidly soluble and the solution can be boiled without destroying its efficiency. In poisonous doses spasms occur the safe maximum dose is about 7 grains. The duration of the anæsthesia when used without an adjunct is 15 minutes (Hertzler) but its action is more prolonged when adrenalin is added.

The advantage obtained in the use of this preparation are definite and important the most satisfactory of which is that the solution — one half to one per cent — can be used in almost unlimited quantities without fear of ill effects. This permits a wide filtration of the operative field with liberal blocking off of the sensory nerve supply which is not true of cocaine except when used in such large dilution that its anæsthetic properties are dependent.

ent to a considerable extent on the edema produced and not to the cocaine in actual use. The fact that the novocaine solution can be boiled without effecting its analgesic property is a decided advantage. We have not had sufficient evidence to show that healing of wounds is definitely retarded by the infiltration of the tissues by the solution.

The use of novocaine is indicated in (1) Ligation of arteries particularly those of the thyroid removal of small tumors of the breast superficial cysts lipomas, circumcisions paracentesis external hemorrhoids drainage of abscesses excision of isolated glands and specimens of tissue for diagnosis tonsillectomy in the adult and various operations on the eye nose and throat (2) cases in which a general inhalation anesthesia is preferable but might for some reason, be deleterious to the patient. In this class we have patients with recent acute conditions of the lung alcoholism nephritis myocarditis etc. or any complication which renders either not necessarily prohibitive but rather inadvisable. Under these circumstances hernia hydrocele varicocele tuberculous epididymitis and similar conditions are very satisfactorily operated on under local anesthesia. Operations on the thyroid are often necessary with an unstable nervous system and marked degenerative changes in the heart and kidneys. In these cases also a local anesthesia is preferable. (3) A group relatively small is composed of those patients who request that a local anesthesia be used. Few individuals voluntarily choose to have any operation however slight done under cocaine.

The advantages in the employment of novocaine

are almost entirely on the side of the patient although unfortunately freedom from pain in the infiltrated area is not insured for any length of time following operation as is claimed for other substances. Interference in the healing of wounds by the devitalization of the tissues has not been observed in cases at the Mayo Clinic to any appreciable degree. Post-operative nausea vomiting and thirst are much less frequent in occurrence than after ether anesthesia, except in cases of severe hyperthyroidism when the gastrointestinal disturbance is a part of the disease.

The methods the Mayo Clinic has found satisfactory in preparing and using novocaine are as follows. A sufficient quantity of one half or one per cent solution is made by dissolving the novocaine in sterile water. This solution, boiled for a minute or two in some instances and not at all in others with no definite variance in results noted. Enough adrenalin is added to the solution to make a strength of 1:1000. Thymol nor any other preservative agent is not employed to render the solution stable a fresh mixture always being made.

In general the production of a local edema following a few minutes for the solution to take effect and incising in the edematous area has been found safe and satisfactory. In the more extensive type of operation morphine $\frac{1}{6}$ grain either alone or in the case of the hyperplastic goiters combined with $\frac{1}{300}$ gr of scopolamine has been given. In the majority of cases this constitutes a very important adjuvant to the successful use of local anesthesia of this type.

SURGERY OF THE HEAD AND NECK

HEAD

Kleemann E. Experimental Study of the Effect of Extract of Hypophysis from Animals that Have Been Castrated or Had the Corpora Lutea Removed (Experimentelle Ergebnisse der Wirkung von Hypophysenextrakt kastriert oder der Corpora Lutea beraubter Tiere). *Arch. f. Gynäk.* 103: 31-35.

By Zentralbl. f. d. ges. Gynäk. Geburt u. Gynäk.

The influence of the hypophysis in raising blood pressure is well known as well as its relation to the sexual organs. The author desired to find out whether the effect of extract of hypophysis on the peripheral blood vessels would be changed if it were taken from normal animals (rabbits) that had been castrated or from pregnant ones from which the corpora lutea had been removed.

He applied the tests to frogs and reports the results in detail. The extract of hypophysis from castrated as well as from normal animals caused prompt vasoconstriction but that from the pregnant animals was inconstant in its action sometimes dilating the vessels sometimes constricting them. With the extract from animals deprived of the

corpora lutea he got constriction of the vessels four times also a marked dilatation four times.

The animals from which the corpora lutea were removed had been pregnant for a greater or less time and the pregnancy was interrupted by the removal of the corpora lutea. The blood pressure experiments warm blooded animals were not sufficiently numerous to draw conclusions from. These experiments probably explain the failures in treatment with extract of hypophysis where no vasoconstrictor effect was obtained. In practice hypophysis preparations should not be made from animals that have recently been pregnant or that have been castrated at least unless a considerable time has elapsed since the castration. *Bresch.*

NECK

Schmidt J E. The Carotid Gland and Its Tumors (Beitrag zur Kenntnis der Glandula carotidea und ihrer Tumoren). *Bull. et Arch. Chir.* 913: 123-129. 30. By Zentralbl. f. d. ges. Chir. u. Gynäk.

The author tried to determine by experiments on cats whether the bilateral extirpation of the carotid

gland threatened life whether unilateral extirpation caused hypertrophy on the other side and whether autotransplantation was possible. He was led to undertake these experiments by a case of bilateral tumor of the carotid gland that appeared in his clinic. To accomplish complete removal the carotid artery had to be extirpated at the point of bifurcation.

As the animal could not stand the simultaneous bilateral removal of the common carotids the two sides were operated on at intervals of 18 days. After the second operation three cats remained permanently in good general condition, one died after 24 days of pneumonia, one after 10 days of inanition. Bilateral removal of the carotid gland therefore does not cause death or cachexia.

The glycosuria observed by Vassale after extirpation was caused by the ether anesthesia. Anesthetized normal cats showed sugar in the urine to the same degree as those that had had the gland removed. The sensitivity to adrenalin was not any greater in the animals that had been operated on than in the normal ones, a circumstance that refutes Ferguson's belief that there is antagonism between the carotid gland and the adrenals. Carotid glands transplanted autoplastically soon degenerated. After extirpation on one side there was no hypertrophic change in the other from which it may be concluded that the gland has no specific function and is a rudimentary organ. His case history follows.

A 2-year-old woman had had a slowly developing tumor for 20 years which had grown fast for three months and caused a marked decrease in weight. Under the angle of the left jaw there was a tumor the size of a hen's egg, to the right at the bifurcation of the carotid on a large as a nutmeg. There were signs of tuberculosis at the apex of the lung. The tumor could not be isolated from the vessels so the artery had to be resected after which the common carotid was united with the internal by Ferguson's urethra anastomosis. The recovery was uneventful. After the operation there were no cerebral symptoms and no sympathetic symptoms. Three weeks later the right gland was removed without injury to the vessels followed by recovery. There was no albumin and no sugar in the urine after the operation. On examination a year later the patient was free from recurrence and in good general health. Moderate atrophy of the left half of the tongue and deviation to the left when it was extended showed that the hypoglossus had been injured at the first operation.

Da Costa J. C. Personal Experience with Tumors of the Carotid Body. *N. Y. M. J.* 94: 3212, 31.
By Surg. Gyne. & Obst.

The author has turned from a viewpoint which he held in 1906 that interference in carotid body tumors should be undertaken when serious functional trouble or rapid evolution of an apparently malignant character is present thus justifying an attempt the consequences of which might be grave.

He now believes that when the carotid body is palpable or visible it is pathological and will probably grow larger will eventually become malignant and should be removed at once. If the tumor has reached a size which indicates "functional trouble" or evolution of apparently malignant character the time is probably too late to obtain a cure. The operation and results are highly perilous.

He reports a case of the early type operated on which was well fourteen months afterwards.

The history description and post mortem findings of a case of bilateral tumors in which he rebelled against operation on account of the probable great involvement of nerves and vessels, is given.

His conclusions are substantially as follows:

1. The carotid body exists more frequently than was formerly supposed.

Its function is unknown and it should undergo atrophy at or soon after puberty if it does not atrophy it will probably enlarge and such enlargement should be regarded as a tumor.

Tumors of the carotid body are known as peritheliomata.

3. Originally innocent the growths pursue a long course. Rapid growth, exceptional until years have passed then they take on a rapid growth this signifies malignancy. The malignant change is sarcomatous with rare exceptions.

4. Growth is almost universally unilateral the case cited being the only bilateral one found.

5. The growth is closely associated with vessels and nerves and is more retrocarotid than intercarotid. It has a large blood supply carried by the ligament of Mayer and any injury to the body causes profuse hemorrhage. Its relations render any operation difficult and post-operative complications probable.

6. Involvement of associated nerves will produce symptoms. The tumors are lifted by the pulsating carotid artery they are movable laterally but not up and down. The author had no case of expansile pulsation.

7. Operative interference is comparatively safe when the tumor is recent and small but is of grave peril when the tumor is old and of especial danger if large. The larger it is the more probable it is that ligation of the common carotid or of all the carotids will be necessary in the removal of the growth. Injury and removal of important nerve structures will be almost unavoidable. Early operation may permit its dissection from the carotids or with tying the external carotid alone. Early operation is imperative because it is easy late operation is difficult and dangerous.

DOUGLAS GORDON.

Wilson L. D. A Study of the Pathology of the Thyroids, from Cases of Toxic Non Exophthalmic Goiter. *J. Lancet* 94: 2035, 93.
By Surg. Gyne. & Obst.

Wilson presents the results of a somewhat interesting study of the thyroids from approximately

equal numbers of cases in each of the following groups (1) 431 thyroids from cases of true exophthalmic goiter (2) 373 thyroids from cases of non-toxic simple goiter and (3) 374 thyroids from cases of toxic non exophthalmic goiter. The results of the gross and macroscopical examination of the glands are tabulated in parallel columns showing the percentage distribution according to the author's histological classification into early advanced and regressing primary parenchymatous hypertrophy and hyperplasia regenerations adenomata and diffuse colloid. His general summary of the observations follows:

1 The pathology of the thyroid in true exophthalmic goiter is essentially a primary parenchymatous hypertrophy and hyperplasia, i.e. an increased amount of functioning parenchyma associated with an increased absorption. The process is an acute one.

2 The pathology of atoxic simple goiter is marked essentially by atrophic parenchyma decreased function and decreased absorption. The process is a chronic one.

3 The pathology of toxic non exophthalmic goiter of Plummer's clinical group 2, i.e. those resembling exophthalmic goiter is one of increased parenchyma through regenerative processes in atrophic parenchyma or the formation of new parenchyma of the foetal type with an increase in each instance of secretory activity and of absorption. The process is a chronic one but sufficiently active to cause the patient to consult a surgeon earlier than do those patients in clinical group 1.

4 The nearer the cases of clinical group 2, toxic non exophthalmic, approach in age and symptoms true exophthalmic goiter the shorter the duration of the period of goiter before operation and the smaller the average weight of the gland at the time of its removal.

5 The cases of toxic goiter of clinical group 1, i.e. those in which the symptoms are of the cardiovascular type, much more closely resemble

cases of simple goiter in their pathology in all respects than do the cases of clinical group 2. A larger number of them are of the colloid goiter type, the enlargement of the thyroid has existed for a longer period before operation and the portion of the gland removed is materially larger than in those cases of clinical group 2.

6 Finally it may be stated that all the above pathological evidence points to a constant relative association of increased secretion and increased absorption from the thyroid proportional to the degree of toxicity on the part of the patient. We have as yet no absolute proof that such secretion and absorption is the cause of rather than coordinate with the symptoms, but the presented evidence strongly points to that conclusion.

Lewis, W. H. Juvenile Hyperthyroidism. *St. Paul M. J.* 1914, xvi, 92.

By Surg. Gynec. & Obst.

During eight years ending January 1, 1913, only five cases of exophthalmic goiter occurring in children under 10 years were operated on at the Mayo Clinic. This group of exophthalmic goiters is interesting in that the physiological processes of childhood differing from those of later life may have some bearing on the type of disease.

The cases all presented exophthalmos and tachycardia of decided extent. Mild irritability was present in four, tremor in three and vasomotor disturbance of the skin in one. The average length of intoxication was 11 months and 20 days. All these children were quite active and except for the eyes were not apparently inconvenienced.

The average adult case of exophthalmic goiter with exophthalmos of a year's standing has marked general damage of more or less extreme degree.

All of these cases obtained prompt and, to date, complete relief by operation. A double ligation was performed on three patients and a partial resection in two cases. Experience indicates that ligations are entirely satisfactory.

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Eden, R. Surgical Treatment of Pulmonary Tuberculosis. Especially Collapse Treatment. (Beit. z. d. u. chirurgischen Behandlung der Lungen-tuberkulose unter besonderer Berücksichtigung der Kollapstherapie). *A. d. H. Chir.* 9, 3, 1913, 73. By Zentralbl. f. d. ges. Chir. Grenzgeb.

Eden reviewing the development of lung surgery notes that Mosler and Pepper's injection of disinfectants yielded no results, resections performed by Block and Ruger did not seem to promise much nor did open treatment of cavities give satisfactory results. Amputation of entire lobes frequently failed from reflex effects from branches of the vagus being involved at the hilus from infection

and uncertainty of the closure of the bronchi and from pneumothorax and emphysema of the mediastinum and skin. This operation is justified only by malignant tumors and purulent processes in special locations.

Freund's operation though it has met with success in many cases is not generally recognized. Many think that slight affections of the apex may be cured in other ways. Artificial pneumothorax by the simplest possible collapse of the lung creates conditions favorable to recovery. If this fails thoracoplastic operations may be undertaken. Eden has tested the different plastic operations of the thorax on dogs and gives his conclusions as to the degree of collapse obtained by the various procedures.

Limited resection of the ribs at any part of the thorax only causes narrowing of the thorax and retraction of the lung at that particular place—it has no effect on other parts. Resection over the lower lobes does not influence the upper ones and *vice versa*. Axillary resection has little effect and has injurious by-effects. Extensive paravertebral wedge resection strengthened in some cases by parasternal resection, gives the best results. Complete collapse of the lung is obtained according to Eden only by the extensive Brauer-Friedrich plastic operation involving the upper ring of the thorax.

The method to be followed depends on the location and degree of the tuberculosis, but it should be noted that according to Friedrich the cases in which the most improvement took place almost all belonged to the group in which the most extensive resection was performed. The dangers involved in these extensive resections chiefly the fluttering of the chest wall and mediastinum are best avoided by operating in several stages. PLIVZ

TRACHEA AND LUNGS

Meyer W. Bronchiectasis. *T. Am. S. & Ass. N. Y.* 1914 April. By Surg. Gynec. & Obst.

The author's aim is to give a picture of the present status of this interesting disease in all its details and phases as heretofore no exhaustive treatise has appeared in the English language on the subject. The pathological anatomy, etiology, symptomatology, diagnosis and indication for operation are thoroughly gone over.

Regarding treatment it may be said that bronchiectasis is today a surgical disease inasmuch as medical, hygienic and specialistic treatment by the laryngologist can merely alleviate some of the symptoms but cannot cure the disease. Still it must be considered a borderland trouble because after operation the patient should pass into the hands of the internist and laryngologist for further treatment. It must be borne in mind that bronchiectasis is an affection of the bronchial tree, not of the pulmonary parenchyma and that therefore methods which have proven of benefit in tuberculosis cannot have the same effect in this disease. Larger cavities of the lung produced by the confluence of a number of smaller ones are of course best treated by a free incision pneumotomy as in pulmonary abscess. In localized tubercles a cure has been observed in a number of cases. The principal treatment is represented by the so called prolapse-therapy. This can be done in various ways. Compression of the lung by means of gas fat tissue or plombs thoracoplasty and phrenicotomy. Thus it has been shown that in somewhat advanced cases insufflation of the pleural cavity

with nitrogen is absolutely useless. Somewhat better results are promised by the loosening of the lung in conjunction with costal pleura from the endothoracic fascia (pneumolysis) and filling of this cavity with a transplant of fat tissue or omentum kept in cold storage (Tuffier). A paraffin plomb often 500 to 1500 grammes in weight may also be of use.

Thoracoplasty with the resection of a number of ribs has been found to give good results in a certain number of cases.

The loosening of the lung from its adhesions with the pleural cavity and fastening its base further up on the diaphragm giving the complementary space a chance to close by granulation has been found of benefit in one case by Garré.

Sauerbruch and Bruns' method of ligating branches of the pulmonary artery which has been done seven times by him and three times by the author of the paper produces marked connective-tissue formation in the affected lobe and firm adhesion between the pulmonary and costal pleura, thus allowing the lobe to be compressed by thoracoplasty to be performed later on. However in not a single case was a real cure obtained although expectoration was reduced 1 to 3 ounces in 24 hours. The quantity of this expectoration may be still further reduced by reduction of the fluid in the lung (thirst-cure) and the character of the expectoration further improved by the inhalation of superheated medicated air with the help of the hot-air douche or by the direct application of fluids blown into the bronchi by means of various apparatus.

Only the removal of the diseased lobe or lobes of the lung—pneumectomy—can really cure these patients and the efforts of surgeons interested in this chapter will certainly have to be continued in the direction of overcoming the obstacles to this radical interference which however at least for the present, must be the last resort.

There are eight pneumectomies for bronchiectasis on record with a mortality of 50 per cent.

PHARYNX AND ESOPHAGUS

Green N. W. An Esophagoscope with Direct Outside Illumination. *Ann. Surg. Phila.* 914 Oct. 1915. By Surg. Gynec. & Obst.

An esophagoscope is described which was conceived and used by the author with the idea (1) of obtaining a strong projected illumination with a minimum of light reflexes (2) of having electrical connections as simple as possible and outside the tube and (3) to be able to sterilize the entire instrument except the ocular and electric light.

PHILLIPS V. CHASE

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Hartmann J. Sensitiveness of the Peritoneum and the Abdominal Fascia (Zur Sensibilität des Peritoneums und der Bauchfascie) *Mitt. ch. m. d. B. h. sch.* 1913 ix 2729
By Zentralbl. f. d. ges. Chir. Grenzgeb.

The author in order to determine the relative sensitiveness of the different human tissue had himself operated on for an umbilical hernia without anesthesia. In this operation he observed that the laying bare of the fascia when done with a sharp knife was almost painless but when the scissors were used there was pain. On cutting the edges of the fascia the pains were similar to those of an electric shock. They appeared in a circle around the ring of the hernia and then irradiated to the left and downward toward the penis. This relative appearance of the pain which was the same at whatever place the fascia was cut he regards as typical for fascia. He says that the sensitiveness of the parietal peritoneum was much less than that of the fascia. Ligation of the omentum was only slightly painful and the sponging of the tissue was much more painful than the knife. He believes that a man with strong will could for the sake of experiment have his appendix removed without anesthesia which would give valuable information in regard to the sensitiveness of the inflamed peritoneum of the abdominal cavity. GLASS

Il rano, T. Practical Experience in the Use of Horse Serum to Increase the Resistance of the Peritoneum to Infection (Über die praktische Erfolge von Anwendung des Pferdeserums Resistenz in Bezug des Peritoneums gegen Infektion) *Deutsche Zeitschrift für Chirurgie* 1913 cx 55
By Zentralbl. f. d. ges. Chir. Grenzgeb.

The author's work is a further contribution to the attempts to increase the resistance of the peritoneum by creating a leukocytic reaction. Normal non-specific horse serum was injected intramuscularly in 14 patients. Results were given in 40 children half as much. It was used exclusively in abdominal live operations which were not operated on but the effect of the serum in these cases was not definite. In continuous severe infections it had no result but postoperative irritations of the peritoneum had a favorable effect. The author thinks he is justified in asserting that the injection of horse serum increases the resistance of the peritoneum and he recommends it as an adjuvant and preventive of infection. K. L. T.

Crédé B. Antiseptic Treatment of Peritonitis (Antiseptische Behandlung des Peritonitides) *Mitt. ch. m. d. B. h. sch.* 1913 cx 117
By Zentralbl. f. d. ges. Chir. Grenzgeb.

The author recommends the treatment of diffuse peritonitis by a method which he has used frequently

years and by which he has decreased the mortality of his cases to 28 per cent. The method consists in drainage of the abdominal cavity without preceding evacuation or irrigation by means of silver gauze drains in several directions. Local and general disinfection is accomplished by pouring 20 to 50 gm. of a one per cent collargol solution into all the diseased parts of the abdominal cavity and on all the intestinal loops and general sepsis is combated by putting two or three 0.05 collargol tablets in the gauze tampons. These tablets act energetically by absorption as intravenous injections. He also gives intramuscular injections of enna after the operation and gives salt solution abundantly subcutaneously intravenously and per rectum by the drop method. He adds 50 ccm. of a 10 per cent calodol solution to every 500 ccm. of the salt solution. BLEIZ GFR

Iebedeff G. I. Menge's Radical Operation for Hernia of the Linea Alba (Radikale Operation der Harnleinenhernie nach Menge) *Zisch'sche Geburtsh. u. Gynäk.* 1913 iii 1541
By Zentralbl. f. d. ges. Chir. Grenzgeb.

The patient was a 38-year-old woman whose last delivery had been 5 years before. After the first delivery the patient had noticed a slight swelling to the left of and below the umbilicus. After each successive delivery it became larger and at the time of examination was as large as the head of a newborn infant. There were attacks of severe pain and a rise in temperature. The operation consisted of a transverse incision through the highest point of the hernia 1 cm. long. The hernial sac was freed and the peritoneum opened — the content of the hernia was found to be omentum and intestine. The hernial sac and atrophic tissue together with some skin were removed and the edges of the rectus muscles were laid bare and removed from their sheath. The posterior aponeurosis was sutured. The suturing was done in three layers: (1) suture of the peritoneum in the longitudinal direction; (2) suture of the rectus muscles in the longitudinal direction; (3) the anterior leaf of the aponeurosis was cut transversely and sutured. Healing was by first intention. G. SARG

Landmann A. Menge's Radical Operation for Umbilical Subumbilical Epigastric, and Postoperative Hernias of the Linea Alba (Über die Radikale Operation der umbilicalen, subumbilicalen, epigastrischen und postoperativen Hernien der Linea alba nach Menge) *Deutsche Zeitschrift für Chirurgie* 1913 cx 117
By Zentralbl. f. d. ges. Chir. Grenzgeb.

Ten years ago Menge emphasized the advantages of uniting the rectus sheath transversely and the muscle vertically. To avoid weakening the muscle by the pitting of the anterior sheath of the rectus he proposes a modification

Menge's typical operation is as follows: Transverse skin incision laying bare and trimming of the hernial ring tying off the sac transverse incision through the anterior sheath of the rectus, and sheeling out of the muscle, then a vertical incision through the posterior sheath of the rectus and the peritoneum, vertical suture of the peritoneum alone or with the posterior aponeurosis, union of the recti in the midline and transverse suture of the fascia and skin. He has used this operation in his clinic in 58 cases: 6 umbilical hernias, 21 hernias of the linea alba, one of which was not operative, in 2 cases hernia of the linea alba together with one of the umbilicus, in one case of umbilical hernia associated with epigastric hernia, in the other 9 cases there was only marked diastasis of the rectus muscle and in 7 of these cases there was a decidedly pendulous abdomen. In 18 patients another operation was performed at the same time, in 10 cases through the same laparotomy opening, 6 times there were subcutaneous hematomata, but no subfascial ones, death resulted in 3 cases, once from peritonitis and once from thrombophlebitis in a pregnant woman.

The presence of a hernia, only a secondary indication for Menge's operation if there is diastasis of the rectus muscle or pendulous abdomen for the symptoms of these abnormalities of the abdominal wall are often quite as important as those caused by the hernia and Menge's operation is designed not only to remove the hernia but to restore the normal anatomical condition of the abdominal wall. He believes his operation is indicated even in very small hernias. Of the first 44 cases operated on 14 were free of symptoms when examined later. The chief advantages of Menge's operation are: (1) The use of the transverse fascia incision, (2) Biond's crossed lines of suture, and (3) the plastic operation on the abdominal wall to cover the hernial opening. I. M. Lova

GASTRO-INTESTINAL TRACT

Rodman W. L. Gastric Tetany. *J. Am. M. A.*
914 ILL 390 By Surg. Gynec. & Obst.

Rodman reports an interesting case of gastric tetany which came on eleven days after a successful drainage operation at which time the stomach was markedly dilated and a large ulcer was found on the distal side of the pyloric vein. This patient made a satisfactory recovery leaving the hospital 31 days after the operation and is well to-day.

It is interesting to note that in practically all of these cases observed closely either at operation or at necropsy there has been a dilatation of the stomach and this has been consecutive either to a benign or malignant obstruction of the pylorus.

None of the theories as to the etiology of this disease are entirely satisfactory but Rodman believes that gastric tetany is due to an absorption of stagnant contents of a dilated stomach which poisons the nerve centers and thereby increases reflex irritation.

Medical treatment is practically a failure. According to Brown and Engelbach at least 33 per cent of the cases die. Surgical treatment is usually successful. It consists of a drainage operation to relieve the over-distended and irritable stomach.

Frequent and thorough lavage of the stomach does a great deal of good in lessening the number and severity of gastric spasms and general convulsions but does not prevent them.

Rodman is unable to explain the presence of panta and occasionally quarts of the greenish secretion which would usually be removed from the patient in whose stomach were two open, a patent pylorus and a gastro-enterostomy more than two and one half inches in width, and in whom obstruction due to kink in the jejunum could be eliminated.

Buttermilk was the ideal nourishment in this case. Other foods apparently caused fermentation soon followed by nausea, eructations and vomiting, conjoined with depression and evidences of general toxemia.

Leo G. Daa

Cole L. G. The Positive and Negative Diagnosis of Gastric Cancer by Means of Serial Röntgenography. *N. Y. M. J.* 1914, 21, 305.
By Surg. Gynec. & Obst.

The author compares the method of diagnosis by serial roentgenography of gastric carcinoma with exploratory laparotomy. His opinions are based on a study of 616 cases, 97 of which underwent operation. He considers the diagnosis can be made with as great a degree of accuracy and the roentgenological method has the advantage of being without risk to the patient.

Ordinary roentgenoscopy or roentgenography will not suffice for diagnosing small indurated ulcers or early carcinoma. The author is not content with less than 40 roentgenograms and he frequently makes 70 or 80. These are made with the patient in the prone and erect postures and at various intervals after the ingestion of the barium. The plates should be set up and studied individually and collectively and superimposed for comparison. The roentgenological diagnosis is based on permanent constant deformities in the gastric wall which interfere with the progression of the peristaltic wave pylorward. The appearance depends on the nature and form of the growth. This method of diagnosis is of value also in advanced cases for by it the location and extent of a tumor and the surgical procedure can be determined. Exploratory operations in inoperable cases can in most cases be rendered unnecessary. Wm. A. Evans

Cole L. G. The Diagnosis of Postpyloric or Duodenal Ulcer by Means of Serial Radiography. *M. & Pr.* 6, Cur. 9, 4, 200, 143.
By Surg. Gynec. & Obst.

The author bases his diagnosis of postpyloric ulcer, i.e. an ulcer occurring in the first portion of the duodenum upon constantly recurring deformities of the cap or phincter caused by the induration

or cicatricial contraction surrounding the crater of the ulcer. There may be associated a pouching or dilatation of the uninvolved portion of the cap and this pouch may retain a portion of the bismuth meal for an extended period after the stomach has emptied itself constituting an additional indication of the presence of an ulcer.

Little reliance is to be placed on so-called flecks where bismuth is supposed to adhere to the ulcer. Healed ulcers may cause definite irregularities which can be shown roentgenographically but which are with difficulty detected at operation or autopsy.

Adhesions to the cap secondary to gall bladder disease may cause distortion which cannot be differentiated exclusively by the roentgen ray from those due to postpyloric ulcer.

ADOLF HARTUNG

Kolb, K. Wilms' Method of Ligating the Pylorus with Fascia Ligamentum Teres and Omentum as a Substitute for Unilateral Excision of the Pylorus (Über die Ersatzmethode der unilateralen Pylorusausschaltung). Pylorus nach ringsum mittelst Fascie Ligamentum teres hepatis und duodenalis nach Wilms. *Berlin. Klin. Wochenschr.* 93, 1916, 11.

By Zentralbl. f. d. ges. Ch. Grenzgeb.

The author discusses the steps which have led from von Eiselsberg's unilateral excision of the pylorus to the much less harmful method of ligating the pylorus and cites Bogoljuboff's experiments which in 1908 showed the possibility of producing stenosis of the intestine by means of transplanted strips of aponeurosis.

Independently of Kolb, Wilms began his experiments in 1911 to close the pylorus in ulcer of the duodenum with transplanted fascia and with his scholars developed the method experimentally. Fascia lata was used without producing any harmful effects to the place from which it was removed. The pylorus was brought together with strips 3 cm. broad and 8 to 10 cm. long so that the mucous surfaces were in apposition.

The secondary contraction of the fascia—cicatricial contraction—which the author had demonstrated in animal experiment made a firmer ligation unnecessary. The place where the strips of fascia crossed was fixed with a suture and the ends were sutured to the ring of fascia and the latter kept from being displaced by being fastened with suture to the serous and muscular coats of the pylorus.

Of 15 cases of ligation of the pylorus which the author described, 11 were ulcer of the duodenum or pylorus, 4 ulcer of the stomach and 3 dilatation of the stomach and stomachitis of the pylorus from adhesions. The cases and modifications of the operation by other authors are also considered.

He reports a case of ligation of the pylorus with ligamentum teres and three in which omentum was used. The ligamentum teres was used in the same way, the fascia only it was drawn tighter. In

using the much less elastic omentum the pylorus was crushed ligated with a silk-suture and the omentum fastened in the same way as the strips of fascia. The postulate that the pylorus shall be impenetrable to chyme and the duodenum shall not fill even after hours was completely fulfilled. The examinations extended to 148 days after the operation.

From his experiments Kolb thinks ligation with fascia is the safest method and that bad results can come only from errors in technique. Omentum is the next best material. Judgment cannot be passed as to ligamentum teres as the author's case in which the result was satisfactory is the only one known.

WOLFF

Whipple, G. H., Stone, H. B., and Bernheim, B. M.: Intestinal Obstruction. III. The Defense Mechanism of the Immunized Animal against Duodenal Loop Poison. *J. Exp. Med.* 91, 1914, 144.

By Surg. Gynec. & Obst.

The authors found that an immunity was produced in dogs against lethal doses of duodenal loop poison by means of repeated small doses of the loop fluid from dog cat or human. The immunity disappears in a few weeks. The sera of immune dogs were found to be inactive when incubated with duodenal loop fluid. The organ extracts and emulsions from immune dogs rapidly destroy the loop poison during incubation *in vitro*.

JAMES F. CHURCHILL

Whipple, G. H., Stone, H. B., and Bernheim, B. M.: Intestinal Obstruction. IV. The Mechanism of Absorption from the Mucosa of Closed Duodenal Loops. *J. Exp. Med.* 94, 1914, 66.

By Surg. Gynec. & Obst.

The authors have shown in previous papers that a toxic substance is formed in a closed duodenal loop. The experiments of the present paper show that the intoxication is identical whether the loop is left empty at operation or is filled with a lethal dose of loop fluid. This emphasizes the fact that absorption of the poison is essentially from the mucous membrane rather than from the contents of the closed loop. The intoxication is not influenced by the presence of bile pancreatic secretion or gastric juice. Cessation of the normal flow of intestinal fluid which bathes the mucous membrane may be essentially responsible for the perverted activity of the mucosa and secretion of a toxic substance into the blood.

JAMES F. CHURCHILL

Husmann, T.: Different Forms of Cecum Mobile (Die verschiedenen Formen des Cecum mobile). *Monatsschr. f. Chir. u. Gyn.* 93, 1916, 695.

By Zentralbl. f. d. ges. Ch. Grenzgeb.

The author distinguishes the following various kinds of movable cecum: (1) Cecum mobile due to a long common mesentery in which the cecum can easily be pulled far out of the abdomen on laparotomy; (2) Cecum mobile due to flaccid

slack retrocaecal tissue and short elastic mesentery (3) Cecum mobile with a short caecal mesentery but a long mesentery of the ascending colon and hepatic flexure. This form permits a marked displacement of the ascending colon and hepatic flexure to the left and the caecum is twisted on its long axis so that its head is directed toward the right and its long axis runs from below on the right upward and to the left.

Cecum mobile is frequently not recognized because of the short caecal mesentery but as it may cause serious symptoms the author recommends operative treatment. The surgeon must not be content on opening the abdomen to ascertain the length of the caecal mesentery but must examine the conditions of fixation of the hepatic flexure and ascending colon.

NEUF ET

Sonnenburg E.: Changes in Views Regarding Appendicitis (Di Appendicitis eunst und jetat). *Berl Kl Wchnschr* 913 1 2313
By Zentralbl f d ges Chir i Gernagob

There have been great advances in the knowledge of appendicitis (1) in a correct understanding of acute appendicitis, the operative treatment of its early stages and avoidance of complications (2) an increased understanding of the peritonitis that accompanies appendicitis (3) a clearing up of the differential diagnosis of chronic inflammatory processes in the ileocaecal region.

Sonnenburg does not entirely agree with Aschoff that every case of appendicitis begins with a phlegmonous inflammation of the wall; he believes that the attack of appendicitis is often an extension from the colon or that a cumulation of toxic substances or bacteria in the lumen may lead to severe irritation of the walls without histological changes. The quantitative leucocytosis shows us whether the body is in a position to overcome the infection. Arnet's method with Kothe's modification is valuable in this particular.

The theories of cecum mobile and habitual torsion of the caecum found adherents but catarrhal symptoms typhlocolitis have been found to be the point of origin of the attacks and of the changes and adhesions in the ileocaecal region. Collection of faeces in the appendix which was formerly denied is now recognized. It is now a recognized fact that the so-called chronic appendicitis is often to be attributed to inflammations of the caecum and ascending colon with adhesions and kinks and swelling of the lymphatic glands and that moreover chronic appendicitis may be cured by removing the sources of disturbance in the region of the hepatic flexure.

ZUR VEKAT

Adami J G: Chronic Intestinal Stasis. Auto-Intoxication and Subinfection. *Colo Med* 19 4 21 34
By Surg Gynec & Obst

Adami discusses in detail and seeks for the etiological factors of the many symptoms which result directly from the so-called auto-intoxica-

tion of chronic intestinal stasis. He states that Lane has recorded no less than seventeen outstanding symptoms as directly due to stasis together with eight malodorous indirectly due to the same cause. These it is said are merely the most important results of stasis.

Lane brought forward says Adami 17 patients and their case reports as evidence that these various conditions can be cured or definitely ameliorated by short circuiting the large intestine by removal of the colon or by insertion of the lower end of the ileum into the pelvic colon by removal of obstructing bands or by performance of gastrojejunostomy to overcome duodenal obstruction and Adami says

To day I want to consider not as a clinician but as a pathologist, how far we may reasonably accompany Sir Arbuthnot to what extent his doctrine is to be accepted.

The term auto-intoxication as applied first by Bouchard in 1887 is a misnomer and is not used to designate alone the poisonings due to excess or defect of the products of metabolism in the disordered working of the body-cells themselves or to disintegration of cells or the products of dissociation of dead tissue but it is rather employed to designate poisons produced by invading bacteria or toxins absorbed from the intestinal tract which later is in reality extrinsic to the body and Adami, in short calls it a means to cloak our ignorance in a garment of pretended knowledge.

Adami believes that Lane has not gone far enough for he states that in a long survey of the anatomical relationships of the viscera, Geddes finds that constantly where he has encountered Lane's and other bands of like nature he has found a lax abdominal wall with more or less atrophy of the recti and other muscles and that the cause of visceral displacement is lack of due support to remedy this should be the first object of preventive medicine and surgery. It is the author's belief that these bands are non-inflammatory in origin and are formed by what he calls stress hypertrophy of the connective tissues produced by the pull of the badly supported bowel on its mesenteric attachments.

In removing the colon or putting it out of use by short circuiting as Lane suggests because he considers it a cesspool of the body is a fallacy because the colon absorbs great quantities of fluids which contain much foodstuff in a soluble state and this concentration arrests bacterial activity. Putrefaction is also prevented and most of the bacteria in the faeces are destroyed without undergoing lysis. Adami suggests that abdominal massage may be a better way of restoring the natural tone to the walls and viscera.

Intestinal intoxication may be attributed to any of the three following causes: (1) The products of disintegration of foodstuff by the digestive juices; (2) the products of disintegration of foodstuff by bacterial activity; and (3) the ectotoxins discharged by the intestinal bacteria.

For the first condition Adami says that in the

light of our present knowledge it is not the digestive fluids, but by their action on foodstuffs induce Lanes symptoms. Concerning the products of disintegration by bacteria the indol group containing scatol, phenol and cresol are the only poisonous substances to be considered and these are not taken up or absorbed by the colon for when indican occurs in the urine in any considerable quantity it means that there is an intestinal obstruction high up above the ileocecal valve. It is interesting that under the third condition—namely bacterial ectotoxins—we find that the bacteria usually found in the intestinal tract have no ectotoxins and as they do not undergo bacteriolysis according to Vaughan no endotoxins are formed.

The main issue of Adams's paper and the point that he lays most stress upon is that all the symptoms or nearly all cited by Lane may be explained by subinfection. He calls attention to the fact that where Lane made blood cultures on his cases of stasis he found them positive either bacillus coli or a streptococcus being present. As regards the rheumatic aches and myositis he cites the work of Rownson in Chicago in which he isolated a strain of streptococcus with which he was able to cause lesions of myositis in animals. In a like manner it has been shown that infection with bacillus coli will cause subnormal temperature and mental symptoms.

Thus Adams concludes that it is more rational to regard the clinical effects of intestinal stasis as a result of conditions favoring subinfection and low forms of infection than a result of chronic intoxication. The nature of the organism responsible for the disturbance and its probable seat of infection should be discovered and other means of procedure taken before operation is advised.

I. GENE CARL

Case J. T. The Roentgenologic Findings in Malignant Obstruction of the Colon. *Lancet* Cl. 1914, 216. By Sir George C. Obert.

In a discussion of this rare condition (Case J. T.) the bismuth examination of the entire alimentary tract is much as the malignant disease of the colon is usually metastatic or due to an extension from the stomach, pancreas or gall bladder. He also uses the roentgen study of a suspected bowel obstruction before the introduction of any bismuth because there is often a very marked gas distention of the colon permitting its delineation from the caecum to the site of the obstruction.

When the patient is before the critical fluoroscope it is often possible to note the level of air and fluid in the limbs of the pleural effusion and thereby determine the presence of antiperistalsis by noting the change in fluid level. Case mentions that the pre-rigidity persists in its entirety in the right half of the colon and under normal conditions is antiperistaltic which is normally interrupted by a strong peristaltic waves in the onward direction which carry the food from the right half of the bowel to the left half where peristalsis influences

distalward. In cases of acute or chronic colonic obstruction there is exaggerated antiperistalsis and Case believes this to be a sign of serious bowel obstruction.

In suspected colonic obstruction he favors the study of the colon with the bismuth enema first upon a horizontal fluoroscope of the Knaus type. His opaque enema consists of barium sulphate 3 oz alcohol 2 dr gum tragacanth 140 gr and water 2 pts at a temperature of 100 F. The onward progress of the head of the entering enema should be carefully watched inch by inch. Even in early carcinomata it will be found that the head of the column halts at the sight of the tumor and the distal colon balloons out under the pressure of the bismuth injection. After a few moments a finger-like bismuth shadow may be observed appearing a little distance beyond the apparent head of the bismuth column afterwards the bismuth may pass on and completely fill the colon. The finger-like process which one observes in these cases represents the bismuth in the narrowed lumen of the bowel corresponding to the site of the tumor. Except in the very smallest lesions there will be most likely a filling defect in the shadow of the large bowel corresponding to the location of the growth.

The significant X-ray finding in these cases in connection with the bismuth meal is stasis above the sight of the tumor often accompanied by dilatation above the site of obstruction. Frequently fecal masses in the bowel proximal to the carcinoma itself often lead to erroneous conclusions as to the actual size and site of the neoplasm and the inclination is to estimate the site of the tumor to be higher than it really is. Waiting twenty-four hours until the fecal tumor or mass is invaded by bismuth is advisable. Case summarizes the X-ray findings in carcinoma of the large bowel as follows:

1. Exaggeration of the normal antiperistalsis giving the appearance of peristaltic unrest to the bismuth content above the site of the obstruction.

2. Arrest or hindrance in the onward progress of the bismuth meal.

3. Arrest or noticeable hindrance in the ascent of the bismuth stream when a bismuth enema is given.

4. Coincidence of a palpable tumor with the point of hindrance in the progress of the bismuth meal or the bismuth enema.

5. A filling defect in the shadow of the bismuth filled colon. Frequently the filling defect is dignified indicating a cauliflower growth at times it may be annular so that an annular carcinoma may be diagnosed.

6. The amount of bismuth enema which may be injected is often indicative of the site of the lesion.

The colon is often markedly distended by gas and gas collections are seen surging backward and forward due to the alternations of peristalsis and antiperistalsis.

7. Marked ileal stasis when the neoplasm is located at the caecum, ileocecal valve or the first part of the ascending colon.

black retrocaecal tissue and short elastic mesentery (3) Caecum mobile with a short caecal colon and but a long mesentery of the ascending colon and hepatic flexure. This form permits a marked displacement of the ascending colon and hepatic flexure to the left and the caecum twisted on its long axis so that its head is directed toward the right and its long axis runs from below on the right upward and to the left.

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Sonnenburg, E. Changes in Views Regarding Appendicitis (Die Appendicitis einst und jetzt) Berl. Kl. Wchsch. 1931 133
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Adam J. G. Chronic Intestinal Stasis, Auto-Intoxication and Subinfection. C. Med. By Surg. Gynec. & Obst. 1934 21 34

Adam discusses in detail and seeks for the etiological factors of the many symptoms which result directly from the so-called auto-toxica

tion of chronic intestinal stasis. He states that Lane has recorded no less than seventeen outstanding symptoms as directly due to stasis together with eight malady indirectly due to the same cause. These it is said are merely the most important results of stasis.

Lane brought forward 17 patients and their case reports as evidence that these anxious conditions can be cured or definitely ameliorated by short-circuiting the large intestine by removal of the colon or by insertion of the lower end of the ileum into the pelvic colon by removal of obstructing bands or by performance of gastrojejunostomy to overcome duodenal obstruction and Adam says To day I want to consider not as a clinician but as a pathologist how far we may reasonably accompany Sir Arbuthnot to what extent his doctrine is to be accepted.

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In removing the band or putting it out of use by short-circuiting the caecum Lane suggests because he considers it a cesspool of the body a fallacy because the colon absorbs great quantities of fluids which contain much food stuff in a soluble state and this concentration arrests bacteria activity and putrefaction is prevented and most of the bacteria in the faeces are dead without having undergone lysis. Adam suggests that abdominal massage may be better way of restoring the normal tone to the walls and viscera.

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could be followed it would be found that at least 57 per cent died from the complication.

The treatment was considered under two heads:
1. Purulent extravasations into the pleural cavity should always be drained, and an attempt made to place a drainage tube into the abscess cavity in the liver.

2. Abscesses opening directly into the lung should be treated conservatively for a time because some heal spontaneously. If however they drain badly and the patient is losing ground, they should be attacked boldly by the transpleural operation and the cavities in both the lung and the liver drained.

Cole L. G. The Röntgenographic Diagnosis of Gall Stones and Cholecystitis. *S. G. Gynec. & Obst.* 1914 xviii. 8. By Surg. Gynec. & Obst.

The roentgenographic indications for gall stones may be either direct or indirect. Direct evidence consists of a characteristic localized area of increased density corresponding in size and shape with a calculus. Indirect evidence is afforded by an alteration in the lumen of the stomach, capricious flexure of the colon caused by adhesions from accompanying cholecystitis. In 30 per cent of the cases examined the lesion was detected solely by indirect evidence and in 60 per cent of the cases the indirect evidence was a most important factor.

Gall stones must be differentiated from renal calculi and other calcareous bodies such as calcified costal cartilages. Biliary calculi show more distinctly an irregular smaller when the plate is placed on the abdomen than when it is placed on the back. The opposite is true of renal calculi.

When there is a calcareous coating to a cholesterol nucleus biliary calculi cast a ringlike shadow while renal calculi seldom if ever have this appearance. When three or more biliary calculi are present they are likely to have faceted surfaces which are readily recognized roentgenographically. If more than one renal calculus is present one is usually larger than the others. Moving the tube from left to right alters the relation of a biliary calculus to the kidney but it does not alter the relation of renal calculus to the kidney.

Adhesions from cholecystitis so closely resemble adhesions and contractions that it is impossible to distinguish them from postoperative adhesions or from those that are sometimes difficult to distinguish between them. The bladder is free to wall in relation to the stomach and the great curvature and draw the stomach to the right, a negligent angulation of the capillary may be in the line of the shadow but not in the line of the shadow. There is no relation of the bladder to the stomach and obstruction of the lumen is a frequent cause of duodenal ulcer.

Direct evidence of gall stones is afforded by the shadow of the calculus itself. The shadow of the calculus is usually in the line of the shadow of the stomach and the great curvature and draw the stomach to the right, a negligent angulation of the capillary may be in the line of the shadow but not in the line of the shadow. There is no relation of the bladder to the stomach and obstruction of the lumen is a frequent cause of duodenal ulcer.

Gall stone without infection may remain in the gall bladder indefinitely without causing symptoms.

Gall stones may be detected often enough to justify a roentgenographic search for them but the absence of any direct evidence does not justify a negative diagnosis and should not prevent surgical intervention provided it is clearly indicated by the history.

Eppinger H. Pathology of the Function of the Spleen. (*Z. Pathologie d. Splinktion*) *Beit. kl. Chir.* 1913 I. 500.
By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Several cases in which splenectomy was performed for hypertrophy of the spleen form the basis of the following conclusions:

1. The icterus from which patients with hypertrophied spleen often suffer generally disappears after splenectomy. By measuring the iodine in the blood of the blood freed from cholesterol the author confirmed King and Medal's assertion that there is a parallelism between hemolytic processes and a high iodine content. The iodine content sinks after removal of the spleen and the fat content of the blood increases as experiments on dogs have shown. Blood examination showed very high iodine content in pernicious anemia, cirrhosis of the liver, hemolytic icterus and cardiac asthma.

It is desirable in clinical blood examination to take account of the number of erythrocytes formed and destroyed. By demonstrating the urobilin in the stools by Charnass's spectrophotometric method the amount of destruction of erythrocytes can be measured to a certain degree. There is a high urobilin content in primary anemia, hemolytic icterus, malaria, lead poisoning and pneumonia while it is low in anemia from carcinoma, postpartum anemia, etc.

3. The urobilin content after extirpation of the spleen in hemolytic icterus and pernicious anemia is very much lower and the patients recover well.

4. Splenectomy has been performed with good results thus far in 2 cases of hemolytic icterus, 2 of pernicious anemia, 3 of the so-called Banti disease, 4 of hypertrophic cirrhosis of the liver and 1 of grave catarrhal icterus. There were no deaths but after splenectomy there was often an idiopathic fever.

5. The spleens in pernicious anemia and hemolytic icterus were very much alike, they were crowded with erythrocytes. There seems to be a parallelism between the hemolysis of the spleen and the amount of blood in it. This is true also in conditions of red tasis to judge from the urobilin content of the stools.

6. In cases with marked hemolytic processes the spleen also was found to be functioning pathologically. It seems that conditions such as hypertrophic cirrhosis of the liver, at the primary disease of the spleen perhaps the severity of many primary hepatic diseases such as alcohol cirrhosis depend on the great role of hemolytic activity of the

spleen The cases which were improved by splenectomy seem to have been characterized by an abnormal increase in splenic function As a means of defense against this, an increased activity of the bone marrow developed In increased hemolysis therapeutic measures should not be directed toward the bone-marrow (tonics) but toward the spleen (splenectomy) L B GARNER

MISCELLANEOUS

Kawasoye: Anatomical Changes in the Abdominal and Thoracic Organs Especially the Peritoneum in Animals, after the Intraperitoneal Injection of Camphorated Oil (Über die anatomischen Veränderungen des Bauch- und Brustorganen insbesondere am Peritoneum von Thieren nach intraperitonealer Campherinjektion) Arch f G 88, 93 ci oo

By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

Intraperitoneal injection of camphorated oil into rabbits almost always causes the reactive peritonitis described by Hoehe The experiments were performed on 43 rabbits The author agrees

with Hoehe that this is to be regarded as a foreign body peritonitis Three successive stages can be distinguished (1) The stage of endothelial proliferation and leucocyte infiltration (2) the stage of fibrin formation and (3) the stage of organization and slow absorption of the oil The injection of one half ccm of one per cent camphorated oil to 100 gms of body weight does not have a toxic effect on the rabbit Fat embolus of the lung cannot be absolutely excluded with this amount of oil which would mean 300 ccm for a man weighing 60 kg

The author has never observed intestinal adhesions though observations have been carried on for many weeks after injection of camphorated oil The sensitiveness of the peritoneum to the oil is very different in different species of animals and even in individuals of the same species The reaction also varies in strength in different areas of the peritoneum The rabbit's peritoneum reacts very strongly and uniformly while in guinea pigs and white mice the reaction is slight and not uniform and appears to a very different degree in different parts of the peritoneum RYGA

SURGERY OF THE EXTREMITIES

DISEASES OF THE BONES JOINTS, MUSCLES, TENDONS CONDITIONS COMMONLY FOUND IN THE EXTREMITIES

Willmsky A O Injuries of the Periosteum with Especial Reference to Their Relations to the Pathology and Repair of Fractures of the Bones Am J S 13, 94 xxviii 63

By Surg Gynec & Obst

Injuries of the periosteum are usually associated with injuries of the neighboring bones or soft parts

After describing the histology of the periosteum Willmsky classifies injuries of the periosteum under the following heads (1) Hematoma (2) laceration (3) injury associated with fracture and (4) injury associated with dislocation

The repair of fractures after proper alignment according to the author depends very largely on the condition of the periosteum The form and location of the callus also is determined by the relation of the periosteum to the fragments F J GAEVATZ

Vois-Jousserand G Radiography of the Bones and Joints Its Value in Orthopedic Surgery (L radiographie des os et d'articulations de valeur en chirurgie orthopédique) J h d d e a med p i clin 193 449 B Journal de Chirurgie

The splendid advances made in orthopedic surgery in the past 10 years are due for the most part to radiology In his work which is a general review of the subject presented to the International Congress of Medicine in London in August 193 the author considers all the diseases that are properly called orthopedic in which deformity is the predominant lesion

He first discusses deformities of the thorax and spine which are so intimately connected with one another and gives the normal radiographical anatomy of the spine It is to be regretted that he does not insist on pictures taken in profile and that he takes views taken in an oblique position or in profile cannot be utilized except in the cervical region and in very young patients for it is well known that in the great majority of cases any good radiologist with a powerful machine can take extremely useful profile plates He also passes over in silence two modern methods of radiodiagnosis which are called into service in orthopedics, first stereoscopic radiography which is of considerable importance in the study of malformations of bone in general and second telerradiography which will without doubt be of increasing usefulness in this field

Lymphoscoliosis in youth congenital deformities of the spine deformities of the thorax and ribs and symptomatic scoliosis include the greater part of the diseases in which collaboration is necessary between the radiologist and orthopedist Deformities of the upper limb are less important and less frequent but they present some obscure points Dupuytren's deformity especially requires further research to learn its origin The roentgen ray is perhaps their greatest field of usefulness in affections of the lower limb especially of the hip A knowledge of the normal radiological anatomy of the hip is indispensable for the study of congenital dislocation of the hip as well as for deviations of the neck of the femur He touches lightly on radiology of the leg and the knee the

foot furnishing material for a discussion of the difficult subject of club foot

In extensive bibliography concludes this interesting and useful work it is to be regretted that as is frequently the case the titles of the works are not given along with the authors and places of publication. This work gives physicians who are not specialists in orthopedics or radiology a good general review of the question

R. EDOLY LEB RD

Voak J and Porges O The Acidty of the Blood in Osteomalacia (Über die Acidität des Blutes bei Osteomalacie) II kl II h hr 193

B Zentralbl f d g Geburth d Grenzgeb

In 11 cases of osteomalacia 1 during the puerperium 3 in advanced age 1 during pregnancy and 1 of ossitis deformans in a man the acidity of the blood was tested by new method for the sake of testing the acid theory. The 130 examination showed a decreased carbonic acid content but even in normal pregnancy there is such a decrease. In osteomalacia as in pregnancy there must be an increased capacity of the blood for dissolving calcium salts and an increase of the acidity in the sense that the fixed acid that dissolve calcium salts are increased and the carbonic acid which precipitates calcium is decreased so that the blood has a greater capacity for carrying calcium. The diminution of alkali salts did not have any effect on the osteomalacia but in case of osteomalacia at an advanced age all general tetany which the patient had had for a year and a half disappeared which demonstrates the fact that there is relation between tetany and acidosis. These experiments further confirm the assumption that osteomalacia is dependent on a disturbance of the internal secretion of the ovary in so far as they show that normal pregnancy and osteomalacia present similar acidosis. This would seem to indicate that an increase of the changes taking place in the ovary in normal pregnancy the cause of osteomalacia. F 12 124

Ashausen Bon and Joint Syphilis (Be Knochen und Gelenk Syphilis) Berl kl II h h 1913
B Zentralbl f d g Geburth d Grenzgeb

Ashausen gives a detailed description of a late form of congenital syphilis which he calls diffuse bone syphilis and especially of subacute which he calls tumor forming bone syphilis. Diffuse late syphilis is manifest itself in peripheral changes by thickening and enlargement of the bones. The transformation of the smooth surface into a rough one with tall tit-like projections. There are also fundamental changes in the internal structure. The compact tissue is destroyed and replaced by porous bone tissue with brownish red smoky granules which also fill the marrow. Thus the lamellar changes in bone structure without softening of the material is the

most characteristic sign of diffuse bone syphilis regardless of whether it affects one or many bones or only a part of a bone

Röntgen examination shows clearly a uniform diffuse spongy bone shadow sometimes there are contained within it remnants of the compact bone which are gradually destroyed and absorbed. He regards this transformation as a reaction of the ossifying bone tissue to the powerful stimulation of the aseptic syphilitic necrosis which necessarily leads to bone formation and substitution for the dead bone a process analogous to that observed in transplantation of bone. If with the characteristic internal changes there are no changes on the surface a roentgen picture appears that can hardly be distinguished from that of fibrous ostitis.

The patient's attention is often called to the seat of the lesion by a thickening in the bone or a spontaneous fracture. If the process is limited to a part of a long bone a hard spindle shaped thickening is developed which increases in size and justifies the suspicion of sarcoma. Even the surrounding muscle may be involved in the syphilitic process.

The appearance of irregular fever and rheumatism makes the differential diagnosis still more difficult. It can be made by means of the Wassermann reaction the roentgen picture and the effect of syphilitic treatment. The clinical picture of joint syphilis is extremely varied in one case it resembles acute chronic polyarthritis in another gonorrheal joint disease and not rarely it may be confused with joint tuberculosis. The assumption that syphilis of the joint is chronic and painless must be given up.

The distinction of syphilis from tuberculosis of the joint especially in childhood is often very difficult. The decisive point is the Wassermann reaction which in all of Ashausen's cases was positive.

In syphilis as in tuberculosis of the joint a chronic and an osseous form are to be distinguished. It is impossible to make a certain clinical or roentgenological differential diagnosis between the two forms of the two diseases as in both there is chronic effusion and swelling of the capsule with a negative roentgen picture. Distinction is easier however in the osseous form.

The roentgen picture shows an ill defined outline of the epiphysis and sometimes the leposition of layers of bone which gradually encroach upon the surrounding tissues. The normal structure of the epiphysis is hidden by cloudy flecks. When osseous syphilis heal sometimes foci of thickening can be seen in the epiphyseal end of the bones. The author regards arthritis deformans as a frequent result of bone syphilis and thinks bone syphilis an important factor especially in the production of juvenile arthritis deformans. Antisyphilitic treatment brought favorable result in one case brilliant. He used intramuscular injection of blue chloride of mercury in young children and in older children in adults he gave a combined salicylate and mercury treatment followed by potassium iodide in rapidly increasing doses. h 11

Glenn E B: Report of Case of Acute Epiphysitis of Femur Treated First for Rheumatism
Lancet Clin 1914 vol 171

By Surg Cyneec & Obst

The author reports a case of acute traumatic epiphysitis of the femur in a boy 11 years of age the foci of infection arising from a stone bruise of the foot. The patient had been treated by the family physician for six weeks for rheumatism after which he was sent to the hospital and a correct diagnosis made. After conservative measures were instituted without success hip joint amputation was successfully done
ARTHUR J DAVENPORT

Tyler A F: Cysts of Bone *Wid Herald* 974
xxxix 53 By Surg Cyneec & Obst

The author comments on the increasing frequency with which bone cysts are detected since the use of the X ray and emphasizes that they represent a distinct clinical entity in contrast to the earlier belief according to which they were held to represent degenerative processes of other bone lesions such as sarcomata chondromata etc

A perimen consisting of a portion of the femur resected for pathological fracture is described. This showed several cysts containing a acid material and lined with a thin shining membrane. The cortical portion of the bone seems to offer no more resistance to the growing cyst than the porous bone.

In the simple cyst pain often intermittent and sometimes associated with impairment of function is present. Occasionally the first sign of the lesion is enlargement of the bone or spontaneous fracture.

For the simple cysts he advocates setting away the membrane swabbing with pure carbolic alcohol packing with iodine form gauze for forty-eight hours and filling with Vossch's paste. In the case of multiple cysts it is claimed that treatment will not suffice and resection and bone grafting is advised. The author reports five cases as follows:

1 Multiple cysts in the neck of the femur. Resection and bone grafting from the tibia.

2 Simple cyst of the lower end of the tibia. Treatment as advised above.

3 Fracture of femur occurring just above the site of a cyst. Union and good function without operation.

4 Two other cysts in the leg in preceding case some time later on in the femur just below the first and the second in the fibula.

5 Rupture of cyst of tibia with mail round cell infiltration in the lining membrane.

F C (AL 952

Perrin M: Multiple Osteogenic Exostoses Accompanied by Arrested Development and Deformities of the Skeleton (Exostoses ostéogéniques multiples accompagnées d'arrêt de développement et de déformation du squelette) *Rev d'orthop* 9 4. 5 B Journal de Chirurgie

Perrin's memoir is based on three cases in which malformation of the members of the

same family the father and two children. All three had multiple exostoses and also a malformation of one forearm the right in the father and daughter the left in the son. The malformation consisted of shortening and incurvation with the concavity internally and with an ulnar club hand due to arrested development of the ulna and consequent incurvation of the radius in the girl the inequality in growth of the two bones had brought about luxation of the head of the radius the most severe degree of the deformity.

Since Bessel Hagen's important work on the disturbances in growth which accompany multiple exostoses Perrin has found besides the cases reported there and these three of Larsson's 33 similar cases.

These disturbances of growth are more frequent than is generally believed in the course of development of multiple exostoses they may involve a number of bones or a single bone the ulna or femur. There is a general shortening of stature the arrest of development may involve the two upper or the two lower limbs. The most interesting fact is the inequality in the length of the two bones of the same limb the forearm arm or leg. The fibula may be too short with incurvation of the tibia and talipes valgus. The most frequent and almost characteristic type is arrest of development of the ulna with normal or almost normal growth of the radius. This produces an incurvation of the radius with the concavity external or an ulnar club hand the ulna not being involved because it is drawn up from the wrist joint or there may be a luxation of the head of the radius that threatens to perforate the skin.

Perrin believes like Lenormant that the disturbance in growth and the multiple exostoses are two different manifestations that are generally associated but that there is no relation of cause and effect. Both come from defective osteogenesis especially of the articular rille which radiography shows clearly. There is a hereditary influence in these disturbances in the region of the diaphysis and epiphysis perhaps it is due to a toxic infection such as tubercle ulcers or syphilis.

ALB RT MOUTON

Jones, D W C. A Case of Chronic Joint Lesions in Haemophilia *Lancet Lond* 9 4 cxxxvi 666.
By Surg Cyneec & Obst.

Painful swollen joints with fusion are important complications of haemophilia. The fluid is usually clear and may contain red corpuscles. There are three stages: (1) Hemarthrosis fusion of blood into the joint. (2) Inflammation simulating acute tuberculosis. (3) Contraction scar formation and ankylosis.

The author reports a case of a man of 32 a bleeder from a haemophilic family with multiple joint lesions including a knee which welled and discolored quickly after slight injuries his coagulation time was 74 to 80 minutes.

W J CARR

Amunategu G Primary Sarcoma of Muscles
(Scomes primis des m. scles) C g mel Am
d l g lat 93 By Journal de Chirurgie

The author describes three cases of primary sarcoma of the muscles with their principal characteristics in children of 11, 5 and 8 years of age. The first two seem to have been caused by traumatism; no cause is given for the third. Extensive resection of the surrounding muscle was performed. There was recurrence in the first two cases; the third had only recently been discharged from the hospital.

The author concludes that sarcoma of the muscles is more frequent than has generally been believed especially in children. Diagnosis should be made early so that extensive resection can be done and the limb preserved. It is difficult to get the patients to consent to amputation which should be performed only in case the removal of all the lesions is impossible.

SALLA MIZRANÉ

Weil S Peritendinous Angiomata (Über peritendinöse Angiome) Beit kl Ch 93 xxxviii
56 By Zentralbl f d ges Ch i Grenzgeb

The author reports two of his own cases of peritendinous angioma to which he adds four from the literature. They develop in the loose cellular tissue around the superficial and deep flexor tendons of the hand sometimes toward the ulnar side sometimes toward the radial eventually involving the tendons of the supinator longus abductor and extensor pollicis and extensor carpi radialis. Because of their extension distally to the wrist joint and proximally to the insertion of the muscles of the tendons the tumors which are congenital but grow only slowly have an oval form. Like all angiomata they are generally soft and fluctuating and can be compressed.

In the author's cases the angiomata were hardened in places by thromboses and calcification which showed in the roentgen picture as round shadows. It is these formations that cause the pain and not pressure on nerves. As the tumor increases in size there may be slight contractures.

The treatment consists in removing the blackish brown masses — which as in tuberculosis are located on the tendons — without injury to them. As the tendons sheath is not involved it is easy to differentiate them from tubercular tumors. The author believes that their unrestrained growth gives rise to a number of the diffuse angiomata of the extremities.

S. ZR

FRACTURES AND DISLOCATIONS

Stoeckl W Fractures of the Head and Neck of the Radius (Die Frakturen des Capitulum und Collum radii) Ber kl Ch 93 lxx
64 By Zentralbl f d ges Ch i Grenzgeb

Twenty-six cases of these forms of fracture are cited by the author who divides fractures of the upper end of the radius into incomplete transverse fractures in children and incomplete longitudinal

or oblique fractures mostly in adults and complete fractures: (1) Transverse and oblique fractures of the neck of the radius; (2) separation of the epiphysis; (3) chisel fracture; (4) sprain fracture; (5) subperiosteal fracture; and (6) comminuted fracture. Besides other fractures in the region of the elbow joint which frequently appear as complications there is quite often an injury to the deep radial nerve.

The etiology is: (1) Direct — fall on the elbow or other direct violence; (2) indirect — it is questionable whether it can be caused by a fall on the pronated hand with the elbow flexed or extended or fixed by muscular action.

The clinical sign of fracture of the bone are mostly lacking; only crepitation and limited motion of the head of the radius on turning it can often be demonstrated; therefore it is necessary to make the diagnosis from the mechanism of the accident, the localization of the effusion of blood and especially the functional examination. Pronation and especially supination are markedly limited and painful; flexion and extension less so; there is pain on direct pressure and on a blow in the direction of the long axis of the forearm. From an extension of the head of the radius forward and outward a mistaken diagnosis of subluxation is frequently made which rarely occurs in adults; the extension is caused by a fracture. The decision as to the form of fracture must be made by the roentgen ray which is especially important for the demonstration of a free body in the joint and to demonstrate complicated fractures.

The treatment should be functional as far as possible; long fixation should never be allowed. Cases in which pieces of bone are completely broken off where there are free bodies in the joint or in which the head is dislocated or comminuted must be operated on. The indications are chiefly determined from the roentgen picture. Even in the operative cases mechanical after-treatment must be begun early. Of the 26 cases 12 were operated on. In the cases treated conservatively the results were good with one exception; the cases were for the most part the milder ones. In those severe cases treated by operation the results were varied; the results were very bad in three cases. Generally there is a limitation of rotation especially in the direction of supination.

FROMME

Menneke J B The Frequency and Significance of Injuries to the Acromion Process. A J Surg Phila 914 h 33 By Surg Gynec & Obst

The author discusses the frequency of acromial injuries and the importance of recognizing the exact nature of the injury. In eight years in the German Hospital there were 89 cases of acromial fractures. These were: (1) Well marked fractures; (2) a separation at the epiphysis; or (3) sprain fractures — the latter predominating.

Sprain fractures are most often found: (1) at or above the acromioclavicular junction; (2) at the

insertion of the coraco acromial ligament or (5) on the upper acromial surface. Some are easily detected with the X-ray while numerous others are only found after the closest study of several plates.

It has been noted that most of these sprain fractures involve the acromion at its clavicular junction and are often accompanied by a luxation of this articulation.

The author explains that these acromial injuries are caused not by direct violence but by transmitted force through the greater tuberosity of the humerus as in falling on the extended arm or elbow.

The two predominating symptoms of these injuries are (1) localized tenderness over the acromion and (2) pain on abduction. The author further states that in stiff painful shoulders he has never been able to make the diagnosis of subacromial bursitis as is so often done.

He treats every case by three weeks rest with active massage and if necessary later by vigorous active and passive motion. FRANKLIN M. CLARK.

Schwarz E. Fracture of the Neck of the Femur in Children (Was wird von der Schenkelsfraktur des Kindes). Beitr. Klin. Ch. 10: 316, 1911. By Zentralbl. f. d. ges. Chir. 1. Göttingen.

Fracture of the neck of the femur is rare in childhood as compared with separation of the epiphysis. It requires a degree of violence almost as great as that required for the same injury in the adult. The symptom are those of a fracture of the joint. The fracture is intra-articular with typical symptoms. It is so far to fracture of the neck, laterally, arising from its poor tendency to heal but is distinguished from it by an earlier return to functional capacity. There is a marked tendency to osseous union, most cases heal in this position always with bony ankylosis. In the abnormal position is hardly noticeable clinically the prognosis is favorable but in many cases the neck of the femur disappears or there is severe deformity of the joint. Ideal recovery is rare. KLEIN.

Johnson F. H. The Mathematical Calculation of Prognosis in Fractures at the Ankle and Wrist. J. E. C. & O. B. 1: 104, 1911. By Surg. J. C. & O. B.

To facilitate the estimation of prognosis from roentgenogram of fractures the author believes that less attention is necessary to the anatomical reduction of fragments if the functional joint surfaces and lines of weight bearing are at the joints in proper position at the end of the period.

In ankle fractures the functional result of the fracture depends upon the proper reduction of the astragali so that the line of weight bearing for the foot passes through the center of the talus also passes through the astragalus at its center. This line is plotted upon the anteroposterior roentgenogram of the ankle.

In wrist fractures the entire longitudinal process of the lower end of the radius consistently distal to a

line which touches the tip of the ulnar styloid which line is at a right angle to the longitudinal axis of the radius. The functional result of fractures of the lower end of the radius depends upon the reduction of the radial styloid to this position. These lines are to be plotted upon the postero-anterior roentgenogram of the wrist.

The author believes that nature is wonderfully tolerant of fragments if he can maintain her functional joint surfaces.

Wells: Treatment of Recurrent Dislocation of the Shoulder by the Frélich-Clairmont Method (Traitement de la luxation récurrente de l'épaule par la méthode Clairmont-Frélich). Rev. med. d. l'Est 19: 321, 1911. By Journal de Chirurgie.

Wells reports a case which thus far is unique in France of the Clairmont-Frélich operation for recurrent dislocation of the shoulder. This operation has only been performed a few times but is certainly the one that best fulfills the indication in this condition. The patient was a strong and vigorous man in whom the dislocations were produced by attacks of epilepsy; he desired urgent treatment which should protect him from such recurrences. The steps of the operation are as follows:

1. Incision on the anterior surface of the arm beginning at the coracoid process and following the anterior border of the deltoid; section of the tendon of the pectoralis major; separation of the two portions of the biceps; then section of the tendon of the latissimus forni and teres major near the bone. The finger can then be passed around the neck of the humerus carefully avoiding the artery and circumflex nerve.

2. A second incision is made along the posterior border of the deltoid from the spine of the scapula to the lower insertion of this muscle. After having detached the adjacent parts a muscle flap 2 or 3 cm broad is made comprising the posterior edge of the deltoid. The vessels and nerves are preserved.

The finger introduced into the anterior wound now comes out at the posterior one; a pair of forceps is passed through the opening thus created to the end of the muscle flap is seized and brought forward and thus being brought around the neck of the humerus and stretching the lower part of the joint capsule. The flap is fixed in this position with a few sutures.

Recovery took place in spite of an intermittent carpal fever which kept the patient in the hospital for a month. He has since had several fits of epilepsy but there has been no recurrence of the dislocation.

The Frélich-Clairmont operation is the operation of bone recurrent dislocation of the shoulder. The weakest part of the articulation results from the rupture of the ligaments of the anterior inferior part of the joint. The strengthening of the capsule and the ring around the head of the humerus and the transverse bundle of muscle are the best results of the patient.

SURGERY OF THE BONES JOINTS, ETC

Sheen W Some Observations on the Operati e
Treatment of Fracture by Metal Plates and
Screws. *Brit Med J* 9441

By Sir Cynec & Obst

Sheen emphasizes the importance of non operative
treatment of fractures His observations are
based upon 25 cases of operations on the long bones
The late cases meaning more than two months
after the injury are more difficult to do an i more
apt to show shock He lost two cases from shock
of fractures of the femur in debilitated middle aged
cases He now operates on femur cases under
spinal anesthesia He advises Lane's technique of
not allowing the hand to enter the wound The
periosteum he thinks i merely a limiting membrane
for the bone and in one case where he disregarded it
there was excessive callous formation Hereafter
he thinks it would be better to wrap a piece of fascia
lata around the bone to prevent this excessi e callous
formation

NI S HEND 450

Phillips C E Fixation of Fractures by Means of
Autogenous Intramedullary Bone-Splints

Surg G & Obst 914 1 33

By Surg Gyne & Obst

Fixation of fractures by means of autogenous
intramedullary bone splints is recommended as the
operation of election for the following reasons

1 The use of non absorbable substances such as
bone plates ivory pegs et create in the tissues an
area of lowered resistance and too frequently result
in untoward remote effects such as chronic osteitis
etc unless removed by second operation

2 The use of autogenous bone splints which
become living integral parts of the bones in which
they are inserted i the ideal method of fixation

3 The only disadvantage of th method has been
the difficulty of technique and this Phillips simplifies
by the use of a carpenter's brace and drill bits to
prepare the medullary canal for the reception of the
splint

The splint is removed from the crest of the
tibia placed in a mill vise and fashioned by means of
a hollow 1/8 inch such a i used by carriage makers
This instrument i the bone in the form of a
tenon of the i size to fit the holes bored in the
medullary canal A bone tenon on and on half
or two inches long is sufficient to firmly fix a frac-
tured femur or humerus

The use of these instrument greatly s mplies the
technique of bone i r plantation and fixation of
fractures

Favaret P Hollowing Out the Tarsal Bones in the
Treatment of Congenital Talipes Equinovarus
(Ile idement sa pla dans l'ut m i pr tiq
d pied bot ru equinovarus congénital) *Tal d
dact* 1 94 By J l de Ch rgn

The author disc sses the treatment of congenital
talipes equinovarus which is i lucidly made generally by
the use of an apparatus which holds the foot firmly

in a position of varus and has never produced any
accidents due to compression He believes with
Jalaguier and Leau that tenotomy should be done
high to be sure of uniting the two ends of the
tendon of Achilles Jalaguier's method of linear
osteotomy may be used or Lamy's apparatus to
correct the spiral torsion of the tibia

Venciére's method of subcutaneous hollowing
out of the bones of the tarsus is an aesthetic operation
which leaves no scar and does not deform the foot
It has all the advantages of the other operations on
bones and ligaments without their disadvantages
It is very efficacious and may be performed up to
the seventh or eighth year The author claims
that the operation i so simple that it can be per-
formed by any practitioner because of its simplicity
and the few instruments required—a Lucas Chir-
pionnière's hand perforating screw and curettes—
and because it does not risk the life of the patient
The results in the 9 cases given were excellent but
the fact that these patients were treated by a very
skilled surgeon and orthopedist should be taken
into consideration in evaluating the method

L. CAPEITE

McWilliams C A The Function of the Periosteum
in Bone Transplants Based on Four
Human Transplantations without Periosteum
and Some Animal Experiments *Surg G & Obst*
914 1 59 By S r Gyne & Obst

The author's aim is to attempt to settle the func-
tion of the periosteum in transplanting bone by a
number of animal experiments He cites the views of
the leading authorities on the subject Macewen
Murphy and Axhausen all differing He reports
four human transplantations made without peri-
osteum following Macewen in each of which bone
transplant became ultimately absorbed One of the
patients was regrafted (fibula into tibial defect)
with periosteum with perfect result In the animal
experiments in which bone was transplanted in
various ways practically every graft with periosteum
lived and thrived while but 48 per cent of grafts
without periosteum were successful This shows
that the another element to be considered be-
sides the mere covering with periosteum this
element was inferior to be a sufficient blood supply
to keep the grafts alive Had the periosteum been on
all the grafts all would have lived the conclusion
therefore must be that the periosteum either favors
a good blood supply or else supplies living cells to
the graft

That the periosteum is not unconditionally
necessary to the life of every graft is shown by the
fact that 48 per cent of grafts without periosteum
lived since it can never be determined which grafts
will live if they be without periosteum the natural
conclusion is that every graft should be transplanted
with a much periosteum on it as possible

From these experiments the author concludes
that both Macewen and Murphy are mistaken in
their conception of the lack of function of the peri-

osteum in maintaining the life of grafts and that Murphy was misled when he stated that the graft is not osteogenic but that it is simply osteoconductive of call into the graft from the contracting extremities of the living tump—this fact is clearly seen in experiment 3, 4, 17 and 19. If this be a fact the author asks: Why should so many of the grafts without periosteum in which contact was thoroughly carried out have died?

McWilliam conclusions with proof under the following:

1. If a cavity be made in the shaft of the bone the periosteum, endosteum and marrow lying thoroughly removed the cavity fills up with bone from the bottom which new bone must come from the old bone itself due to an intact nutrient artery.

2. If a section of the whole diameter of a bone be removed then the bone will regenerate between the ends of the fragments if the whole or part of the periosteum be preserved bridging the defect.

3. Provided the graft be living and taken from the same patient its future life depends on an efficient blood supply irrespective of the periosteum or whether it is in contact with the living bone or not.

4. A graft on a graft, neither having a covering of periosteum will not live even though one graft be in contact with the living bone.

5. Periosteum alone will transplant into the soft parts may produce a living bone.

The pitting of the periosteum of a graft even though the transplant is entirely surrounded on all sides by periosteum must be unnecessary and accomplishes nothing.

6. Altogether 16 transplantations with periosteum were performed and of these all but one 93 per cent were successful.

7. Although the transplant is without periosteum were performed 1 and of these 4 per cent were successful while 1 per cent were unsuccessful. The influence of the blood supply is demonstrated by the fact that 15 per cent of the transplantations without periosteum made with nutrient fragments were successful while 4 per cent of those without periosteum made with large fragments were successful.

8. From a clinical point of view the foregoing facts the author is inclined to state that the bone graft of whatever size should be transplanted with as much periosteum as possible in order that the possibility of infection may be avoided of the subsequent living graft.

Le Jemtel Intramedullary Graft for Pseudarthrosis of the Diaphysis of the Tibia (ref. trans. med. Assoc. (Portland, Maine) 1914) (ref. med. Assoc. (Portland, Maine) 1914)

Le Jemtel operated on a woman of 64 who had a fracture of both bones of the leg that had shown no tendency to unite after four months of treatment. He freshened the fragments and fitted a peg from one of the fragments of bone he had resected and

pushed it into the marrow of the upper fragment then by bringing the two fragments as near together as possible he succeeded in making it penetrate the marrow of the lower part of the tibia also so that the tibia seemed to form one solid bone.

The question arises as to whether this graft of bone from which the periosteum had been removed acted merely as a support or whether it was a real graft. In either case union took place by first intention and the bone was tolerated in a very satisfactory fashion. Consolidation was however lower than in an ordinary fracture and required nearly three months. At the end of that time the patient could walk and later reports showed that she was getting along well.

This case is peculiar in that the graft was taken from the fractured bone. The results bespeak that is the perfect tolerance of the graft and the absence of any signs of infection such as there would have been with a sequestrum leads to the supposition that the graft did not act simply as an inert body.

H. F. F. Mobilization of the Shoulder and Elbow Joint by the Transplantation of Joint Ends (ref. in Med. Abstr. (Chicago) 1914) (ref. in Med. Abstr. (Chicago) 1914)

The author discusses the nature of the treatment of ankylosis of the joints and describes 4 cases in which fractures of the elbow from trauma furnished the indication for operation. Three of them were children and one a 55-year-old woman.

In the first case occurring in a 5-year-old child the joint was laid bare by a Langenbeck's incision and the fracture exposed of the articular surface of the humerus was freed from all the humerus, resected the allus joining the fractured end of the joint and the humerus extirpated and the end of the joint transplanted to the humerus. Fixation at right angle was followed by good results there was no final joint.

The second case was a 7-year-old child who had been run over by a wagon. The joint and fracture were laid bare by a Langenbeck's incision the joint end was free from callus and the end of the humerus resected followed by joint transplantation of a suitable part of the distal end of the joint. The result here too was much better than could have been expected of muscle reposition. There was no final joint.

The third case was complete ankylosis in a 35-year-old child caused by a fall on the elbow. After opening the elbow joint the fractured piece of the condyle was freed from callus and a hole was made in it with a sharp curette so that it fitted over the point of the humerus then it was drawn over the humerus with a wooden hammer. Both parts of the bone were bored through at right angles passed through the holes and tied in fixation dressing was applied in the flexed position. The result was good.

The fourth case was also ankylosis of the elbow

joint in a 55 year-old person. The joint was resected by Langenbeck's method. In some places the ends of the joint had lost their cartilages. The articular surface of the humerus was reimplanted after the head and the lateral epicondyle had been removed in order not to leave too great a piece of bone projecting and to make the wounded surfaces as near the same size as possible. Two parallel canals were bored and by means of silk sutures the part of the joint was fixed to the shaft of the humerus. The olecranon was sawed obliquely from the ulna the fixation being at a right angle. The result was moderate lateral flail joint and functionally poor result on account of the atrophy.

In conclusion three operations on the shoulder joint by Klapp's method are described. Klapp's operative mobilization of the joint by the transplantation of the end of joints may be reckoned as a partial resection thus widening the field of the latter.

FRIED LOEW

Lewis D. D. and Davis C. B. Repair of Tendons by Fascial Transplantation. *J. Am. M. A.* 1914, 10, 60. By S. G. Gynec. & Obst.

The free transplants of tendons to repair defects in other tendons resulting from trauma or infection has become a well recognized surgical procedure.

For this free transplantation the tendon of the palmaris longus has been used in most cases because it can be removed without interfering with the wrist function. If however this tendon does not supply much it is better to use another source of supply must be looked for.

Experimentally it has been demonstrated that fascial tubes much like tendon when transplanted and that long defects in tendons may be bridged by tubes of fascia and that tendons which cannot be directly sutured to the tendon which has been destroyed develop to repair the defect.

Kornegay believes that when a fascial tube is inserted between the cut ends of tendons the fascial proliferates to form the tendon and very little of the new tendon is formed by proliferation from the end of the divided one. The authors of this article believe that the fascial tube proliferates to form the new tendon.

The authors report a case in which a rupture of the flexor digitorum profundus of the right ring finger. Within a few weeks a distinct rounded swelling which rolled under the skin could be felt.

The patient's reason for the finger was amputation of the distal phalanx. The tube was sutured to the proximal tendon. It was a well formed tendon. The patient was in good condition in lack of history. The tube was divided and transplanted. The original fascial tube could be seen. It contained no tendons and there was no history of infection. The tube developed from the fascial transplant.

R. O. RUTHERFORD

Stoffel A. New Points in Tendon Transplantation. (Neu Gesichtspunkte beim Sehnenüberpflanzung). *Arch. f. Orthop. u. Chir.* 1913, 250.

By Zentralbl. f. d. ges. Chir. u. Grenzgeb.

Stoffel believes that tendon transplantation is performed many times in an unphysiological way because muscles are used whose anatomical structure is entirely different from that of the paralyzed muscle. Only muscles should be used that have morphologically the same functions as the ones for which they are substituted. The extensor hallucis, the extensor longus digitorum, and the peroneus longus are suitable as substitutes for the tibialis anticus.

A muscle should not be carried through the interosseous space because in this way an extensor may be substituted for a flexor and vice versa. Neither should a muscle of the flexor group be carried around the tibia or the fibula anteriorly because it may be loosened too much from its origin. He says that the transplanted muscle must not be put on tension but that its physiological length must be preserved. It must not be inserted far enough from its point of origin so that it is stretched.

Transplantation in paralysis of the foot must consist of two steps: (1) The right form of the foot must be obtained by a plastic operation—transformation of the tendon of the paralyzed muscle into a ligament. (2) the substitution of another muscle for the paralyzed one observing the principles given above.

The treatment of an overstretched muscle should not consist in shortening the tendon for this only stretches the belly of the muscle that much more. Stoffel procures contraction of the muscle by strong electric stimulation through the wound supplemented by continued electric treatment after the operation.

In conclusion Stoffel recommends electrical examination of the muscle during the operation to determine whether it is adapted for transplantation. The color of the muscle is not always an index of its strength.

PRINCE

ORTHOPEDICS IN GENERAL

Weisenbach R. O.: Some Orthopedic Conditions in the Neighborhood of the Shoulder-Joint. *B. J. Orthop. & Surg.* 1914, 10, 410.

By Surg. Gynec. & Obst.

Weisenbach's article deals with the following disturbances of the shoulder joint: (1) Injury to the subdeltoid bursa. (2) rupture of the supraspinatus muscle. (3) brachial pressure with neuritis as a symptom. (4) referred pain to the neighborhood of the shoulder due to slightly deformed scapula.

He points out that the subdeltoid bursa is often injured when there is fracture or dislocation at the shoulder joint and frequently gives pain long after the major injury has been adjusted especially in those with a predisposing adhesions. The arm

usually can be raised but the movement is painful
 1 ressure over the bursa when the arm is hanging is
 painful but this tenderness disappears with pressure
 at the same point when the arm is raised so the
 bursa is protected by the acromion process

A 40 year-old patient when seen several months
 after an injury to the shoulder had a swelling of the
 left arm suggesting fluctuation in the region of the
 deltoid bursa A few months after manipulation
 the patient returned to work

Rupture of the supra pinnatus muscle usually
 follows indirect muscular action often associated
 with a buritis and prevent the arm being raised
 above the level of the shoulder In a case of injury
 with Daborn sign the patient was unable to
 raise the arm above the level of the shoulder the
 right shoulder drooped forward and downward
 and there was atrophy about the right scapula
 The ligament was rupture of the supraspinatus
 muscle with a prolapsed deltoid buritis

Brachial pressure with neuritis as a symptom
 occurs in some individuals usually with a tendency
 toward forward stooping shoulders and pressure
 upon the brachial plexus

The author reports a case with pain radiating
 down the arm chiefly in the hand contour of shoulder
 equal to spinal tenderness over the bursa
 active motions some what painful in certain direc-
 tions slightly stooped shoulder arm forward
 When the stooped shoulders were corrected and the
 weight taken off the brachial plexus the ligament
 was confirmed by the patient improved condition

The author believes that a hump on the scapula
 which will not glide easily may be caused by stoop
 shoulder attitudes in children and that in occupa-
 tion there may be an irritation referred to the
 shoulder and the hand He reports two cases one
 a lady 25 years of age with pain in the neck and
 general fatigue The neck should be forward
 bending tense neck muscles angles of the
 scapula forward and neck extended Recover fol-
 lowed the removal of the hump on the scapula
 The other case a man with referred pain to for-
 ward part of the right breast and repetition over the
 shoulder blade neck after the neck of the
 scapula was removed

In the differential diagnosis of the
 to Daborn sign possible fluctuation of
 the patient with a slightly movable arm in
 all directions when there is brachial neuritis
 In rupture of the supraspinatus muscle usually
 atrophy of the deltoid is not great unless there
 is a punched arm not limited by the level of the
 shoulder

Marquis 1891 A Disease Treated by Van C. huc-
 ten's Operation (N. laire de l'ile tran-
 soperato de l'chuct) Bull. m. m. Soc.
 de Ch. P. 40

B. Journal de Chirurgie

A boy of 7 with little's disease had never been
 able to walk, stand upright or use himself After

complete failure of orthopedic treatment con-
 sisting of section of the tendon of Achilles and the
 tenotomy on both sides and fixation in a plaster
 cast with the thighs abducted the legs extended and
 the feet flexed Marquis decided to perform Van
 C. hucten's operation of sectioning the nerve root
 On the left side he resected in the terminal con-
 duct three bundles each including three roots
 posterior root fibers leaving three or four fibers
 intact between each two bundles The same opera-
 tion was performed on the right except that fewer
 fibers were resected and the two bundles left intact
 were larger than those resected The recovery was
 unsatisfactory and eight days after the operation
 massage and mobilization was commenced Four
 months after the operation the function result
 though different on the two sides is considerable
 The child can sit himself with the legs horizontal
 he can stand upright with one hand resting on some
 support and he can walk with the aid of a cane

Let us who report this case think that
 Marquis resorted to root section too soon before
 having given orthopedic treatment a thorough
 trial This case therefore cannot serve as a basis
 for a discussion of the indication for orthopedic
 treatment and the root section operations—
 K. n. s. (L. e. k. Schuller, Van C. hucten's and
 C. and Desmarest's) It is difficult to determine
 the value of these operations until they have become
 common enough so that many surgeons perform
 them and the mortality does not depend on the skill
 of a certain specialist The mortality thus far has
 been 6 or 8% even without counting the failures that
 have not been published

The principle of Van C. hucten's operation in
 contrast with Forster's is to resect not the great
 nerve trunk of the posterior root but only a few
 posterior root fibers C. n. s. and the 1st m. thod
 has two advantages first that the decrease in the
 nerve tonus is more uniform and does not all
 the motor fibers of the anterior horn and conse-
 quently it releases the tonic of all the muscles the
 second that the technique is simpler because of
 the concentration of all the root fibers very
 limited in number and is not so easy to know
 but in section of them to which root fibers belong
 the section of the motor of the motor can be
 much less exact than that as well as the depth of
 that the root is less long 7 hooks of exposure of
 the motor nerve is sufficient there has been no
 mortality from Van C. hucten's operation although
 it is true that it has only been performed about ten
 times and the results obtained especially in the
 little cases they compare favorably with those
 from Forster's operation

Marquis and Braxa agree with C. n.
 doubting the utility of root section as a
 cure case and the value of the orthopedic treat-
 ment—nootomy osteotomy and motor section—
 judiciously applied and kept up perse-
 cutively will give as satisfactory results as a operation of the
 root

DELBET also agrees in this belief but calls attention to another advantage of Van Ceuken's operation over Forster, viz that as the lymnectomy is further up the wound does not run the same risk of becoming infected.

MATTHEW calls attention to the operation recently recommended by Stöckel for Little's disease which consists in sectioning parts of the nerves supplying the muscles that are the most contracted. In one case he successfully sectioned half of the internal popliteal nerve but the operation is too recent to have judgment passed on it.

In several cases of Stöckel's operation the results have been encouraging. Putti 4 cases Anzilotti 1 case Hoffmann 8 cases. To avoid total paralysis care must be taken not to cut more than half way through the nerve and to separate the two ends of the nerves to prevent regeneration. J. DEBET

Bassett Schlatter's Disease (Lamford & Hillier) Arch d. ori p. 913

By Johnson & Ch. rg

The author reports a case of this disease the nature of which is still undetermined. It is localized at the anterior tuberosity of the tibia and was described in 1903 by Osgood of Boston and Hillier of Berlin.

The author's patient was 3 years old and fell while kicking a football after a few moments of friction he was able to run in the game and did not come to the clinic until a month and half after the accident. The left leg did not show a vicious position there was simply muscular atrophy of the thigh the femoral part of the knee was normal but there was thickening of the patellar ligament and the anterior tuberosity of the tibia was prominent especially the external part of it. Palpation showed a little fluid in the joint and there was keen pain on pressure at the tuberosity no abnormal mobility. The movement of the knee were normal except extension which was incomplete.

The patient was placed in rest and treated by massage and 36 later was completely well. In 93 he complained of similar pains in the tuberosity of the right tibia which had increased to twice the size of the left one which had been attacked first. The signs were the same those observed before in the left and he was cured by rest and massage.

This case followed by complete history of Schlatter's disease and the author gives the following conclusions. In addition to irritation of the tuberosity of the tibia there is a section called Schlatter's disease. Clinical examination does not show it to be either a traumatic or inflammatory nature a study of the histology gives no so to say a definite and definite pathological examination is not conclusive. Local examination the course of the malady open operation and radiography lead to the conclusion that there is repeated irritation caused by traction of the patellar tendon followed by exaggerated ossification. F. GUNDEL

Leo W. Heine-Medin's Disease and Its Relation to Surgery (Die Heine-Medinsche Krankheit in ihre Beziehung zur Chirurgie) Klin. w. f. p. 20

By Zentgraf & d. ges. Ch. Crenzgeb

Heine recognized the great importance of surgical treatment in infantile paralysis. Its object is to overcome deformity and restore function. Replacement tenotomy and plastic lengthening of the tendons are made use of to overcome contracture. The operation is made use of for the restoration of function are arthrodesis transplantation of tendons and muscles and splicing of nerves.

Arthrodesis is indicated in extensive and definite condition of paralysis. Tendon transplantation should be performed not less than a year after the acute stage. The social condition of the patient must be taken into consideration because of the long after treatment necessary.

If these two methods cannot be used muscles may be transplanted but this is a rare operation. Nerve splicing has thus far not yielded very positive results.

The author describes König and Hildebrandt's method in paralytic club foot and paralysis of the quadriceps and deltoid. Severe talipes equinus is corrected by arthrodesis. Mild cases of club foot are treated by tenotomy of the tendon of Achilles correction of the position and a plaster cast. If both groups of muscles are paralyzed a arthrodesis is performed if only one the plantar or dorsal flexors the tendon are transplanted.

In paralysis of the quadriceps if the flexors are paralyzed arthrodesis is indicated if they are normal tendon transplantation. In paralysis of the deltoid Hildebrandt's transplantation of the pectoralis major and trapezius muscles is used or vulpian arthrodesis. BAKER

Lowman C. L.: Relation of Foot and Leg Muscles to the Statics of the Body. B. J. M. & S. J. 9419

By S. rg. Gynec. & Obst.

The author briefly and concisely presents the relation of foot and leg muscles to the statics of the middle segment of the pelvis and lower back regions. He describes various pathological changes and suggests suitable treatment.

It has frequently come to his notice that with malposture of feet limbs and back tenderness and pain was noted in the region of the hip joint near the trochanter major posteriorly and at the insertion of the ligament anteriorly and the radiograph often showed a lipoma or an spur formation due to irritation caused by increased tension of the muscle and ligaments attached. He also noted in back strain with tension upon the lumbal ligament that the crest of the ilium was thickened with a lipoma of the vertebra and sometimes calcification of the ligament. Also in weak round or flat back with increased tension on the psoas and pyriformis muscles irritation was found at their origin and insertions.

Weak sacro iliac joints tilt the pelvis due to short

kg or unilateral flat foot may cause much the same process by over strain upon the muscles

Relief may be obtained by the adjusting of apparatus as plates shoes etc. to force the $\frac{1}{2}$ calcis outward and place weight on the outer border of th

foot so as to rotate the thigh and rest the irritated muscles.

Rest and corrective exercises should be used also in connection with corrective apparatus especially in young adults and children. C. C. CURRY, M.D.

SURGERY OF THE SPINAL COLUMN AND CORD

Melsenbach R O The Correction of the Fixed Structural Type of the Spinal Lateral Curvature *J Am M Ass* 10:4 131, 517

By _____, Sec. of Obs.

The author advocates the Abbott method of treatment for spinal lateral curvature. He believes that

1 The chief causative factors of scoliosis are muscular weakening together with the anatomical construction of the torso. A lateral curve may be considered as a sequence rather than as a primary entity. It may be induced in many ways through loose posture, congenital defect or irritation of the bony skeleton.

2 There is prevalence in types of the first and the for the first of these occurring in children must according to Wolff's law affect the anatomy of the torso.

3. The spinal action is closely allied to the anatomical construction as is shown by the articular processes of the twelfth lord of the dors and the lumbar vertebrae.

I experiment on the lumbar spine both with and without the rotation to show that hyperextension locks and flexion unlocks the pin that in hyperextension the lumbar pin is completely locked whereas the thoracic pin is partially locked and allows some rotation. In so doing flexion and extension of the spine is in the best position for correction and for the rotating of a lateral curve.

5 There are three types of scoliosis: the congenital, postural and traumatic. The congenital type is the most difficult to treat as it is often associated with a malformation of the spine, but also of the vertebrae of the thorax and the pelvis. The postural type is the most common and is caused by an imbalance of the muscles of the back. The traumatic type is a forerunner of the congenital type as it is often associated with a malformation of the spine.

6 In copouder x ny cyse for tre tm nt om
plete records of the xz should be made by means of
special apparatus the sc lmt r the ant ny
of the prss nt hould be tulin th me n of rnt
genogram and h lct th r ough amed by
the int rx n to the tml jha u If this
done the z l to the pr t u l h m mized ex n
in the m r types ll p lacement of the heart
with heart murmurs togeth r a th nstome of
anami or gastric disturb ex n not ne r rily
contra indications for treatm nt l ut i uft n h p

pens that these conditions and symptoms improve after the spinal correction has been undertaken. In some cases the percentage of haemoglobin is increased after correction. It is common to find sub-optimization resulting from deformity in patients afflicted with scoliosis and lack of excursion of the ribs. The excursion of the ribs can best be improved by the correction of the spinal deformity.

Since it has been proved that the spine can actually be rotated and the deformed ribs remodeled as it were many of the cases which were formerly considered hopeless may now be much improved and straightened.

Persons with extreme scoliosis may be very much improved in regard both to the general health and to the deformity and therefore should receive careful observation. The mildest and even those which formerly were considered beyond help may now be entirely corrected when skillfully treated.

The new method of treatment is comparatively rapid and in some instances surprisingly so when compared to the old methods the pain not necessarily being in proportion to the deformity. The absence of pain however in the process of correction demands much on the technique.

to look carefully over any doubtful cases which may suggest flat foot or any irregularity in posture be as these deviation from the normal may be forewarned of lateral curvature and later on severe deformities of the spine

CHARLES B. JACOBI

Jansen M Physiological Sciences and Life Sciences

This important work presents the clinical picture of physiological scotomas which has been disputed for a quarter of a century and gives anatomical and developmental facts to show its origin.

The spinal column of normal men frequently shows marked lateral deviations at three places: at the twelfth seventh and second dorsal vertebrae. They are (1) a lumbodorsal convexity to the left (2) a mild dorsal convexity to the right and (3) a cervicodorsal convexity to the left. There is a remarkable agreement between these typically located bends and the deviations in Schulthess's scoliosis statistics. The normal and abnormal spinal column must yield to the same physiological

for several months had symptoms of a progressive tumor of the conus of the cord. As all therapeutic measure were unsuccessful operation was finally undertaken but the patient died of exhaustion. Histological examination showed an inflammatory process a meningomyelitis in the region of the conus epic nu and lower lumbar cord.

A case of successful operation for a tumor of the middle and upper part of the cervical cord was described. In a 32 year old boy had shown a gradually increasing paresis beginning in the right arm accompanied by Brown Sequard's syndrome an involvement of the right facial also being noted. Operation showed a fibrosarcoma at the level of the third fourth and fifth cervical vertebra. Recovery was complete after removal of the tumor.

Data given based on a great number of the author cases for the diagnosis and differential diagnosis of partial hemiplegia of which an inferior median and an upper type is distinguished according to the height of the lesion.

In the inferior type there is atrophic paralysis of the small muscles of the hand and generally also of the interossei and supinator flexor being absent while the supinator reflex and that of the flexors of the forearm and the pronators are generally preserved and may be exaggerated. There is pupillary symptom. Paralysis is of the leg on the same side there is also that on the opposite side in the leg and in the same side in the lower part of the arm supplied by the spinal roots.

In the upper type the atrophic paralysis is of the Erb's muscles but the supinator flexor of the arm lacking. The distal part of the fingers takes place the intrinsic muscles generally exaggerated the presence of the muscle supplied by the lower cervical enlargement may be positive characteristic.

The median type is also very characteristic a pure form but may be atypical.

Spinal hemiplegia is a disorder for above the cervical enlargement a paralytic character. The most important point for motor irritation reflex. Hyperreflexia and loss of all tendon reflexes in the arm some in the leg also rotatorion and hand clonus. In some cases there is a bilateral simultaneous paralysis of the diaphragm in the region supplied by the thoracic enlargement. Focal lesions there may be in the meninges the brain of hyperesthesia and contractions of the muscles. This probably is a case of the so-called "spinal roots of the trifacial" but is sometimes observed through the active symptoms in the region of the face such as hyperesthesia and distal paresis in the face. Then an increase in regard to the appearance of the face and of the face held responsible for them. The face is of the cerebellar type. The face may play a role in the face. Tension.

Mayer L. Enchondroma of the First Cervical Vertebra Compression of the Cord Laminectomy Recovery (Enchondrome des premières vertèbres cervicales compression médullaire laminectomie décompression guérison) J. of Med. & Br. Ch. 94 1 By Journal of Chir.

A young man of 9 had had an anthracoid furuncle of the nape of the neck six years before and a far swelling of the region perceived after it. It was painful but continued to increase in size slowly and in 1912 it was removed by physicians who believed it to be a lipoma or an abscess. When it was found to be a bony tumor the wound was closed.

About a year later the patient was examined by Mayer who found a hard tumor in the occipital region slightly painful on pressure not adherent to the skin immovable on the cervical column. Radiography showed a bony tumor with a broad base implanted on the spinous processes of the axis and the third cervical vertebra there was hardly any point neous pain except a sharp pain occasionally in the neck and some tingling in the right arm movements of the head were possible but were a little disturbed by the size of the tumor. The tumor was removed quite easily with the gouge and saw passing along the laminæ of the second and third cervical vertebra. Histological examination showed it to be a benign osteochondroma.

The patient recovered quickly and remained quiet for four months then he began to feel fatigued and had some difficulty in deglutition and a progressive paralysis with amyotrophy beginning in the right shoulder and arm and extending rapidly to all four limbs and to the muscles of the trunk. He found a tumor found at the nape of the neck the size of an egg not very hard painless adherent to the skin but not united to the right of the cervical column. The cutaneous reflexes were absent in the lower limb the tendon reflexes exaggerated in the arm and temperature sensation almost abolished. There was no ankle clonus no Babinski no Romberg no disturbance of the pharynx. The barium point showed a normal amount of fluid. Wernmann reaction was negative. The blood and cerebrospinal fluid.

Mayer made a laminectomy on the occipital protuberance the spinous process of the sixth cervical vertebra the recurrent cervical portion of the tumor was isolated from the muscles of the nape of the neck and removed then the vertebral column was opened by resection of the spinous process of the third cervical vertebra. The tumor had prolapsed into the interior of the vertebral canal and had caused an incomplete fracture of the axis on the third cervical vertebra the section was easily extended to the spinous process and right lamina of the axis and atlas was a little wider the extent of 6 cm without touching the spinal cord extending only to the cervical

apparatus The day after the operation the left hand could be moved somewhat two weeks later walking was almost normal and the disturbances of deglutition sensation and the reflexes had disappeared

I. M. Marmet

Learynsky W. M. Ghoma of the Cauda Equina

J. M. J. 1914 SCIV 360

By Surg. Cyn. & Ob.

The author reports the case of a woman aged forty nine years who twelve years ago slipped and fell striking herself violently on the buttocks but was apparently uninjured. She remained well until three years later when she began to have pain in the left lumbar region radiating in the course of the left sciatic nerve and extending to the knee. At times the pain also occurred either in the anterior portion of the left thigh or in the left calf. The pain was paroxysmal and usually of a sharp or darting character lasting for several hours. There were periods of several months which he was entirely free from pain. At times the pain was so severe that she was unable to lie able. About four years after the left lower extremity was attacked the right side became similarly affected. During the last three years there had been numbness both feet and toes and the legs would often give in walking. At this time the knee jerks were absent and there was loss of sensibility extending from the toes to the knees. At the time of examination the patient was unable to walk or stand. Three weeks before he noticed occasional continence of urine and frequent attacks of involuntary flexion of the left lower extremity at the knee and hip joints. She had occasionally had severe attacks of occipital headache not vertigo no vomiting. The menopause had occurred the previous February. She was always of a nervous temperament. While in remission she was unable to lie on either leg or move the feet and toes. The crural group and the iliopectineal were paralytic on both sides. When either thigh was passively abducted and supported she was able to extend the leg several times but the muscles became rapidly exhausted and she was then unable to accomplish the slightest movement. There was bilateral foot-drop with contracted tendo achillis on the right side and a trophic ulcer was forming over the heel. The knee jerks, reflexes and plantar reflexes were absent.

There was an old scoliosis with the convexity in the lower thoracic region tenderness on pressure over the right side of the first lumbar vertebra. There was complete analgesia and thermo-anesthesia and loss of the sense of position on both sides extending upward to one inch above the patella. On the right side anteriorly hypalgesia extended to one inch above the level of the umbilicus while on the left side it reached to three inches below the nipple. Posteriorly it extended to the level of the eleventh thoracic spine. Tactile sensibility was preserved.

The faradic irritability was normal in all nerves and muscles in both lower extremities. The upper extremities face tongue cranial nerves pupils and optic discs were normal. There was no evidence of disease of the thoracic or abdominal viscera. Radiographs of the vertebral column showed normal conformation and there were no indications of osteosclerosis. The Wassermann serum reaction the blood count and urine examination were negative in result. No cerebrospinal fluid could be obtained.

At operation the tumor was encapsulated and the roots of the cauda were spread over its dorsal surface. It extended above the level of the tip of the conus and the entire spinal canal was filled by the tumor mass. The growth was left for extrusion. One week later the tumor was removed and the patient improved slightly but died from embolism three months later.

The pathological report is as follows: At the level of the conus the dural sheath was filled with tumor mass to which it was intimately adherent. The mass was of a fibrohyaline structure pushing some of the nerve bundles of the cauda equina against the dural sheath and enclosing others within its substance. In the middle portion of this mass there was a longitudinal cavity about one and a half inches long. At the level of the first sacral segment it was less hyaline but somewhat granular, and in the lower part of the sacral portion the dural sheath closed a tumor mass the size of a pigeon's egg which on section was mottled grayish red and coarsely granular. It was loosely adherent to the surrounding dura and the nerve bundles were disposed peripherally to it. On transverse section made at different levels of the lumbar enlargement the central portion was found to be hollowed out by regular longitudinal cavities. The tumor was a glioma.

EDWARD L. CORBELL

SURGERY OF THE NERVOUS SYSTEM

Rochet and Latarget Surgical Methods of Approach to the Hypogastric Plexus and Its Ganglion (Etude anatomique et clinique) Z. d. Chir. 1914, 10, 3, 41. By Journ. d. Chir. et de

Rochet and Latarget believe that the section of the hypogastric ganglion indicated in some

diseases of the bladder. It must be approached either by extra or intraperitoneal laparotomy. In the first case after the rectus muscles have been separated the bladder is dissected first anteriorly and then posteriorly. It is then drawn forward toward the pubis so that the dissection can be carried down to its lower part and the seminal ves

their richness in cell which increases greatly in pregnancy — there are sometimes muscle elements in these fascia tumors

As for etiology in addition to pregnancy mentioned above, naves and trauma have been suggested. The differential diagnosis may be very difficult in large tumors. The only treatment is operation. The prognosis depends on the microscopic picture. TIGR SCHULTZE

Gieritz K. H. Fascia Lata as a Substitute for Tendons and Ligaments (Über frei Transplantation der Fascia Lata als Ersatz für Sehnen und Bänder). *Deutsche Zeitschrift für Chirurgie* 93: 480. By Zentralblatt für Chirurgie. Grenzgeb.

Gieritz in spite of unfavorable external conditions had very successful results the first time in trans

planting pieces of fascia lata to replace extensive losses of substance in tendons. In one case he replaced 15 cm. of all three extensor tendons of the thumb.

He lays great stress on the importance of passive movements from the first day after the operation which can be carried out without any injury. In one case the lateral ligaments of a flail joint at the knee were successfully replaced by strips of fascia.

These three cases show that fascia lata can be used to replace tendons in the human subject. Very long sections of tendon can be replaced and the fascia holds extraordinarily well even under the least favorable conditions and forms tendons with completely normal physiological function. KIRSCHNER

MISCELLANEOUS

CLINICAL ENTITIES — TUMORS, ULCERS, ABSCESSSES, ETC.

Craef W. Trauma and Tumor (Trauma und Tumor). *Zeitschrift für Chirurgie* 93: 480. By Zentralblatt für Chirurgie. Grenzgeb.

The question of whether trauma can cause true tumor formation has not been proved experimentally and the results of clinical observation are by no means uniform. It is certain that artificially produced atypical epithelial proliferation has nothing to do with true malignant new growth. In general there is more frequently a history of trauma in sarcoma and of repeated thermic or chemical irritation in carcinoma. The latter is evidence in favor of Virchow's irritation theory. The appearance of benign tumors after trauma seems to be rare. Injury causes only a part of the traumatic epithelioid cells also of lipoma which are more frequently developed after a blow or bruise.

Iaken malibrom myxomangiomyoma and neuroma myomatoid glioma lymphoma. tionally be concluded. The history of the different forms of trauma is not a direct demonstration of the connection with injury. Very frequently with skin from horse these tumors are more frequent. The whole of the form of the tumor is not with general health in sarcoma in the fifth decade.

The growth of sarcoma is rapid. It is a new formation. In the history of the tumor the origin is often probable. The latter are frequently malignant. The origin is not generally known and from the history of the tumor malignant tumors. These are the history of the tumor.

Sarcoma and myxoma must be on the list of rat and human ligamentous cancer and self-treatment of the tumor cannot be made.

use of Carcinoma of the breast seems to be of traumatic origin most frequently. A history of bruising is often reported and the prevailing location in the upper outer quadrant is of significance. In carcinoma of the lips, tongue, face and extremities appearing from the fourth to the sixth decade there is rarely ever a history of violence but more frequently of repeated irritation.

A traumatic origin — previous existence of inflammation and ulcer — for internal cancer seems the most doubtful. In roentgen carcinoma an overdose has been described as the cause and such an accidental origin has been limited. Tumor formation has also been attributed to direct infection is for example from injury during operation. The sarcomata regarded as traumatic generally affect young men in the labor classes during the third decade and are generally of moderate severity. Injury with a blunt trauma is the most frequent extrinsic cause. Round the history of the soft parts is the prevailing type. It is questionable whether there is a traumatic origin in multiple myelomata. It has been denied the ground that this is a systemic condition. It is doubtful whether trauma may not be held responsible if not for the origin at least for the localization.

The author discusses the awarding of damages for tumors caused by trauma in which cases the symptom of the new growth should have appeared in general within two years but with the so called transition symptoms a much longer period may pass by. A hitherto latent tumor may be brought to light by a trauma either because it incites it to more rapid growth or because it leads to a more searching examination. Spontaneous fractures are cited as example. As there is so little light on the matter trauma must be as regarded as the cause of tumor only with great caution and the author warms against the increasing tendency to recognize a causal connection. LIEBER

its underlying causes. There can be several factors, all or in combination of which may be present in a given case. There is an infection with micro-organisms in every case and there is no specific organism but the common pathogenic forms.

In addition marked arteriosclerosis or a marked alcoholic diathesis may be present. The authors believe a process analogous to Raynaud disease appears in certain cases. Several considerations suggest that it is possibly the increased amount of sugar in the circulating blood which may have reduced the retarding power of the cell. If the latter hypothesis be correct it would explain the amelioration of symptoms following successful dietary regulation since this regulation lowers the percentage of blood sugar which is the ultimate object.

It is not their contention that every case of gangrene is of the type which yields to the dietary regulation. Fulminating cases in which high amputation is indicated occur occasionally but it is rational to give each case as thorough a course of dietary treatment as possible especially as the results of surgical treatment are most unsatisfactory.

It is necessary to restrict the carbohydrate ingested to an amount which is completely utilized by the patient. At the same time it is well to remember that the total withholding of carbohydrates for more than a few days at a time may also be injurious to the patient. The problem then is to find the amount of starch to give.

The authors take the question up in some detail and have formulated the diet used by them into tables as follows:

TABLE I

Breakfast Eggs chops broiled chicken fish (fresh salt or smoked) ham bacon tomatoes onions mushrooms (broiled or fried) coffee

Lunch Clear meat broths meat of all kinds game poultry fish green vegetables served hot with butter sauce pick Brussels sprouts string bean asparagus artichokes salad of lettuce endive cucumber tomatoes with oil and vinegar of any kind of cheese

Dinner Clear broths e.g. consommé meat soup as lunch artichoke root as substitute for potato cabbage asparagus spinach string bean served hot gelatinous jellies and custards sweetened with saccharine nuts of any sort except the nut Black coffee (filtered or whatever if desired)

TABLE II

The food in the list to be taken only in the amounts ordered

Soups	Portion	Equivalent number of Lard
Bean	1/2 crag	
Clam chowder	1/2 crag	
Cream of corn	Average	
Pea purée	Average	
Potato	1/2 crag	
Tomato	1/2 crag	

Vegetables

Beans baked	tablespoonfuls	2
Beans, butter	tablespoonfuls	1
Beans Lima	2 tablespoonfuls	2
Beans Kidney	2 tablespoonfuls	2
Beets	2 tablespoonfuls	1
Corn green	ear	2
Onions	2 onion	1
Corn and	tablespoonful	
Green peas	tablespoonful	1
Lotus baked	medium sized	3
Lotus boiled	medium sized	3
Potato mashed	tablespoonfuls	2

Fruit

Apple	1 medium sized	
Blackberries	2 tablespoonfuls	1
Currants	3 tablespoonfuls	1
Huckleberries	tablespoonfuls	
Orange	medium sized	
Peach	1 medium sized	1
Pear	medium sized	
Plum	medium sized	
Raspberries	3 tablespoonfuls	1
Strawberries	4 tablespoonfuls	1

Cereals

Bread slice 3 x 4 1/2 inch		
Hominy boiled	1 tablespoonful	
Hot O boiled	2 tablespoonfuls	1
Macaroni boiled	tablespoonful	2
Macaroni baked with Cheese	tablespoonful	2
Oatmeal boiled	tablespoonful	1
Rice boiled	tablespoonful	2
Shredded wheat biscuit	1	2
paghetti baked with tomato	tablespoonful	2

EDWARD L. CORVELL

Janeway H H and Ewing E M The Nature of Shock. 4 Surg Phila 10 4 1 1913

By Dr R Gynec. & Obst

The authors present a summary of their investigation into the various theories of shock and the experimental data supporting conclusions which they have arrived at. Crile's fatigue of the vasomotor center and consequent lowering of blood pressure until the cerebral centers no longer receive sufficient blood supply to enable them to functionate normally is the first theory discussed. No one can fail to admit the important association of a diminution of blood pressure with the onset and development of shock.

Janeway and Ewing state that their work is in the main in agreement with that of Howell, Porter and Miltzer demonstrates that (1) Low blood pressure is an important symptom of shock but an animal may pass into a state of shock with a blood pressure which is still far above a point below which the nervous system fails to functionate normally. (2) It is unlikely that changes either in blood pressure or in the force and output per beat of the heart are augmented by fatigue of the nerve centers. (3) Shock in some cases is of reflex and in other cases of local peripheral origin.

The authors then inquired into the causes which lead to shock before blood pressure begins to fall. From experimental data they conclude that (1)

The spleen is characterized by an overgrowth of round cells. In the thyroid the parenchymous cells predominate for the first four days after which there is an overgrowth of connective tissue. In the kidneys the new growth is mostly parenchymatous. Colossal cells predominate. The testicle and other organs show similar changes.

Castaigne, Touraine and François: Severe Tetanus. Large Doses of Serum. Recovery. (Séisme grave. Sérothérapie massive. C'est son.) *Bull. Méd. Soc. Méd. d'Alsace de Paris* 1913 N. 38 870
By J. Mal de Chaux

Tetanus developed in a young girl of 14 ten days after an injury to the leg. Three days after the first attack which was very severe an injection of serum was made at the Pasteur Institute. The temperature was 38 pulse 120 she had attacks of pharyngeal spasms. Within 12 days afterward 600 m of serum were injected by various methods intravenous spinal subcutaneous paravertebral. The patient recovered.

The interest of the case lies in two facts: (1) It was almost a pure case of serum treatment. (2) In spite of high dosage there was only moderate signs of crum. (knees, wrists, and genitalia) realized a rhinorrhea with an increase of temperature. The authors conclude similar as to their own. (1) That the use of large doses of serum is the best method used. (2) That the use of large doses of serum is the best method used.

SERA VACCINES AND FERMENTS

No. 11. The Wassermann Reaction with Special Consideration of Its Clinical Availability. (Ueber die Wassermannsche Reaktion mit besonderer Berücksichtigung ihrer klinischen Verwertbarkeit.) *Bull. N. 4*

The Wassermann reaction is a work which met with great success. It has been used in the diagnosis of syphilis. The Wassermann reaction is a work which met with great success. It has been used in the diagnosis of syphilis. The Wassermann reaction is a work which met with great success. It has been used in the diagnosis of syphilis.

Döderlein and Pauron: Treatment of Gonorrhoeal Arthritis and Gonorrhoeal Orchitis with Beredka's Sensitized Antigonococcus Vaccine. (Traitement de l'arthrite et de l'orchite gonorrhéiques par le vaccin antigonococcique sensibilisé de Beredka.) *Bull. Soc. Méd. d'Alsace de Paris* 1913 N. 38 870
By J. Mal de Chaux

Dictated by the results obtained by Crueschier in the treatment of the complication of gonorrhoea with the antigonococcus vaccine which he had prepared at the Pasteur Institute by Beredka's method. Döderlein and Pauron ask him to apply his method to several cases in their service.

He describes in detail two cases with arthritis appearing first in the knee and ankle joint later in the wrist joint with recovery in both cases. In the first case however the urethral discharge persisted and contained gonococci.

Crueschier cites a case published by the Biological Society of a gonorrhoeal arthritis of the hip which although it had kept the patient in bed for months improved very rapidly after injection of the vaccine. He has also treated the acute form of the vaccine on gonorrhoeal orchitis and epididymitis. In 5 cases he found that the pain disappeared in from 12 to 24 hours after the injection and that the swelling decreased rapidly. (Gonorrhoeal urethral discharge only slightly influenced by the injection.)

Treatment with sensitized vaccine seems to be a great aid in the therapeutics of the most painful and serious complications of gonorrhoeal infection.

BLOOD

Illies: A Fat Transplantation to Control Haemorrhage from Abdominal Organs. (Die Fettschneidung zur Hemmung von Blutungen aus den Bauchorganen.) *Z. f. Chir.* 1913 N. 347
By Zentgraf, Ch.

Ilies' splanchnic fasciectomy is a treated muscle which previously been used in the treatment of hemorrhage from the abdominal organs. In these methods hemorrhages are treated by the application of the fatty tissue. The fatty tissue is subcutaneous fatty tissue for a transplant. It is always present in sufficient quantity. Only fatty tissue that is free from large vessels of fat are removed. The edges of the wound are sutured.

The splanchnic fatty tissue is removed from the peritoneum. The fatty tissue is removed from the peritoneum. The fatty tissue is removed from the peritoneum. The fatty tissue is removed from the peritoneum. The fatty tissue is removed from the peritoneum.

INTERNATIONAL ABSTRACT OF SURGERY

edges. Before the flaps had been fastened in position the bleeding generally stopped within one to three minutes—secondarily the bleeding was never observed.

In some animals killed 2 hours to 5 days after the operation there was a hematoma between the fat flap and the wound surface. The fat flap protruded outward a little and the blood in it was under it. In parallel experiments with fascia it seemed to hide that the bleeding was not stopped so quickly. With flaps of mentum the effect was as quick as with ulcers. Consequently in the human cases of gall bladder operation a mor- phage from the liver to the liver was reported in a short time with flaps of stomach and ulcerated fatty tissue. The post-operative new growth in both cases.

Crutti A. Indirect Transfusion of Blood. Surg. Gynec. 1914. 11: 117-118.

The author reports an original technique for indirect transfusion. Although employed in a limited number of cases, it is a simple and safe method. The author reports that the method is a simple and safe method.

The author reports that the method is a simple and safe method. The author reports that the method is a simple and safe method. The author reports that the method is a simple and safe method.

The author reports that the method is a simple and safe method. The author reports that the method is a simple and safe method. The author reports that the method is a simple and safe method. The author reports that the method is a simple and safe method.

BLOOD AND LYMPH VESSELS

Bunting (H) and Bates (J). An Histologic Study of Hodgkin Disease. J. Am. Med. Ass. 1914. 5: 111-112. Bunting and Bates reported that the organism cultured by the histologic method was in the blood.

of the lymph nodes showing all the essential features of early Hodgkin disease in man. Since making this preliminary report the authors experimental work has demonstrated that the pathogenicity of the culture they were using and has further shown that the culture of the organism to the point of producing death of the animal after a relatively acute illness. The growth of the culture seems to be a secure infection at the same time to avoid virus line so great as to produce extensive necrosis of the liver and other organs. The working space between these two limits is very narrow. Extensive necrosis of the liver is the usual clinical picture of the lymph nodes in Hodgkin disease. In a recent clinical case he demonstrated that even in man the virus of the organism may be such as to lead to these features.

The results indicate that the survival of an animal for the requisite length of time is all that is needed for a demonstration of the chronic lymphatic picture seen in this disease.

SURGICAL THERAPEUTICS

Schulhoff (A). Effect of Collargol on Infection. (Liberated from the German literature.)

After discussing the nature of the question the author gives the history of the use of collargol in different organs. At first it was used in the treatment of the skin. It was then used in the treatment of the respiratory tract. It was then used in the treatment of the urinary tract. It was then used in the treatment of the genital tract. It was then used in the treatment of the nervous system. It was then used in the treatment of the blood.

The author reports that the method is a simple and safe method. The author reports that the method is a simple and safe method. The author reports that the method is a simple and safe method. The author reports that the method is a simple and safe method.

In subcutaneous infection with colon bacilli all signs of local inflammation were less there was no necrosis of tissue and there was no increase in temperature. In the exudate of control animals there were many bacteria and few leucocytes in the treated animals this was reversed. In subcutaneous infection with anthrax the local symptoms were milder but the animals all died of general infection though not so soon as the control animals.

In subcutaneous infection with staphylococcus the control animals developed abscesses and died of general infection while the treated animals only had edema at the site of injection which disappeared after five days. In intravenous and intraperitoneal infection with colon bacilli the animals treated with collargol recovered while the control animals died of sepsis. The collargol in these experiments had no effect on the course of the staphylococcus infection no experiments with anthrax were made in this series. In the clinical cases as well as in animal experiments the author found a marked polynuclear leucocytosis after collargol injections. In order to decide whether the collargol acted as a bactericide or whether the results were produced by the leucocytosis he placed a rabbit infected with colon bacilli and treated with collargol on ice which produced a marked leukopenia and especially a decrease the polymorphonuclears yet the animal recovered.

In conclusion the author describes a series of experiments in which he confirmed the result of previous authors that the collargol in the blood and exudates was found for the most part in the leucocytes and among the organs in the liver and spleen.

He comes to the following conclusions: (1) The collargol acts on the infection chiefly through its bactericidal properties. (2) It is contained for the most part in the leucocytes. (3) This explains its slight effect on subcutaneous infections with anthrax which seems to be in contradiction to the results of experiment *in vitro* because anthrax infection produces a serous exudate without migration of leucocytes. It also contrasts with the results in local staphylococcus infection where an edematous rich in leucocytes is formed. (4) Besides its bactericidal effect the collargol produces a polynuclear leucocytosis and a rise in temperature which act as auxiliary factors in the struggle with the infection. (5) Therefore collargol can be used with good results if it has a bactericidal effect on the bacteria causing the sickness and if there is pus. In bacteremia it is significant that the collargol deposited by the blood chiefly in the same organ as the bacteria. Under the above conditions the collargol may be of great use if given early and in large doses.

R. F. S. M. P. P.

Beck, E. G. The Present Status of Bismuth Paste Treatment of Suppurative Sinuses and Empyema. *J. S. G. Phila.* 9:4 b 45.
By Surg. Gynec. & Obst.

The author takes up the use of bismuth paste in all its phases citing several cases as examples

and giving a summary of the results of other men throughout the world.

The causes of the failure of bismuth paste to do the work required are several. The most important cause is the failure of the paste to reach the seat of the trouble. It is essential that all branches of the sinus should be filled with the paste. Sequestra, foreign bodies and faulty technique and an insufficient knowledge of the rules that have been laid down for the injection of the paste have been the principal causes of the failures.

To insure success in employing bismuth paste the essential points are summarized as follows:

1. A correct diagnosis should be made by all methods available and same should be corroborated with stereoscopic radiographs before an injection is made.

2. Before attempting to employ this method the operator should acquaint himself thoroughly with the technique.

3. The proper instruments should be employed in order to carry out the technique correctly.

4. The patient should be kept under constant observation to prevent bismuth intoxication.

5. The secretions from the sinus should be examined before the first injection by slide and culture and often by the inoculation of guinea pigs then three days later the sterilizing effect of the injection should be tested.

6. As long as the sinus contains micro-organisms it should be rejected but if it is found sterile it should not be re-injected.

It is good practice to wait at least one week after the first injection before repeating it.

8. A stereoscopic radiograph of the parts affected should always precede the first injection in order that the presence of sequestra or foreign bodies may be detected. The shadow of the paste might make their presence obscure.

9. Following the injection a second set of stereoscopic radiographs should be taken in order to make a correct anatomical diagnosis.

10. In case a foreign body or sequestrum is present the injection is useless operation being the only means.

Acute suppurative processes should not be treated with bismuth paste only chronic suppurations both tubercular and non-tubercular.

Bismuth poisoning may be easily prevented by using only small quantities or when large quantities are required they should not be retained longer than ten days and the patient should be carefully watched.

3. Facial fistulae and other post-operative sinuses are very favorably affected by bismuth paste treatment.

4. A ten per cent bismuth vaseline may be used in cold abscesses. In practically all instances the secondary infection can be prevented providing the technique is carefully observed.

EDWARD L. CORRELL

of the uterus has only a limited value. In spite of the negative histological results vaginal total extirpation was performed in all cases because of the clinical symptoms and in each case there was a beginning carcinomatous process in the fundus. In doubtful cases therefore, extirpation of the uterus that is indicated by the clinical symptoms should not be given up because of deceptive microscopical findings. STENLUND

Ketler H: Radium Treatment of Cancer of the Uterus (*Zu Radiumbehandlung des Gebärmutterkrebses*). *Wochschr. f. Geburtsh. u. Gynäk.* 1913, 21, 1, 2839. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäk.

Radium and mesothorium should be regarded as nothing more than palliative measures. Operable carcinomata even in the earliest stages should always be operated upon as no one can guarantee their radical cure by radium. After treatment of operable cases by irradiation is on the other hand justifiable and often of great value. It must not be assumed however that mesothorium treatment is harmless; the process of absorption disturbs the general condition considerably. The secreting surface should be frequently cleaned and infected with tincture of iodine; the lower of the uterus even when strongly infiltrated should not continue over twelve hours and should have lapses of two to six days between them. The radium carrier should be adapted to the shape of the tumor and be brought as near as possible to the part to be treated. The tissue lying over the carcinoma may be incised. For cases that have not passed the bounds of operability too far a preparatory radium treatment may be of value. JEWELMAN

Chéron H and Rubens-Del II: The Value of Radium in the Treatment of Uterine and Vaginal Cancer (*Über die Wert der Radiumtherapie in der Behandlung des Uterin- und Vaginalkrebses*). *Fortsch. d. Chir. u. Gynäk.* 1913, 21, 1, 2839. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäk.

The chief points in the technique of radium treatment of operable carcinomata of the cervix body of the uterus and vagina are as follows: The use of Domme's method of intraperitoneal irradiation with massive doses and increased filtration with increased use of the doses. The radium rays have an elective effect on the carcinoma cells which finally destroys them; this effect proceeds in the same way as the spontaneous defense of the organism against the cancer. In two cases there was cure of an inoperable carcinoma of the cervix after only two treatment courses in the first case by autopsy and in the second by histological examination of tissue from the uterus removed by hysterectomy. In the latter case however living cancer cells were found; the pelvic glands removed with the uterus. The value of the treatment which is local and depends on the depth of penetration of the rays, lies not in the cures but in the

marked improvement in cases where all other treatments have failed.

In 158 cases treated in the manner described above there was one certain anatomically demonstrated recovery, 155 improvements of which 93 were very pronounced and 46 of which were probably cures; in two cases the results were negative. K. HOFFMANN

Schauta F: Radium and Mesothorium in Carcinoma of the Cervix (Radium and Mesothorium bei Carcinoma cervicis). *Monatsschr. f. Geburtsh. Gynäk.* 1913, 50, 3. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäk.

After the use of 10 mg. mesothorium for 24 hours the author saw no effect except necrotic decomposition. Sixty-four milligrams of mesothorium with a lead plate 0.3 mm. thick and a silver plate 0.5 mm. thick were applied to the diseased place for 7 days. Radium was filtered through 2 mm. of lead and so to 100 mg. were used for 18 to 9 days and then a rest of 8 to 10 days given. Radium seemed more effective than mesothorium. In deductions on the effect of radium follow:

1. *Local effect.* After the first or at latest the third series no macroscopically unchanged carcinoma tissue could be found; many times no carcinoma tissue could be recognized at all. The infiltration of the parametrium sometimes remained stationary; sometimes decreased and the nodular masses in the cervix disappeared. The effect is elective; healthy tissue was never affected.

2. *General effect.* Headache, loss of appetite, pain in the intestines and bladder, constipation and diarrhoea, sometimes rises in temperature, hyperemia 24 hours after the removal of the radium.

3. *Long effects.* Two severe hæmorrhages, 1 vesicovaginal fistula, 1 rectovaginal fistula—although it is a question whether the fistula can be attributed to the radium.

In radium treatment Schauta recommends that the following points be taken into consideration. The size and location of the carcinoma, the extent to which the septa between the vagina and rectum and vagina and bladder are involved and the general condition of the patient and that all operative cases should be operated on as before preferably by the author. He deduced vaginal radical operation which gives a mortality of only 3.6 per cent. After the operation a not too intense radium treatment is indicated. All inoperable and severe operable cases should be given radium treatment. It is contraindicated however when the septa between the vagina, bladder or rectum are involved and in severe anemia. A dose of 40 to 50 mg. radium is sufficient and should be left in position 5 days followed by ten days rest and then renewed application. Care must be taken that local recovery is not mistaken for real recovery which cannot be assured for from three to six years. COMBATORIO, 16

Berdes Röntgen Ray Treatment of Myomata
(Über die Röntgenstrahlung der Myome) *Festschrift*
a d Geb d Röntgen 1913 xx 393
By Zentralblatt f d ges Gynäk u Geburtsh d Grenzgeb

The author reports 82 cases of myoma and 20 of uterine diseases. There were few failures three times haemorrhage began again with erythema with no serious complications. Following is a summary of the technique. Hard Muller's tubes and radiology tubes (9 12 W) 3 mm aluminum filter 15 cm from the skin 20 cm 20 fields one on each side 9 ccm in diameter. Irradiation is from two directions on each ovary the apparatus being directed from above downward and from without inward. Compression of the field produced by a Luffa pad to render the skin anemic and bring the ovary nearer the surface. Treatment is continued during the menses in order to make use of the increased circulatory activity to heighten the effect. Each field is treated until it assumes color III of Bordier's scale: II. Five to six treatments are given in a series one every other day with 3 weeks rest between series. The results are satisfactory. In suitable cases Freiburger's method may be applied with Kronig's apparatus. *U. LER. C. ARIOBA*

Philips T B Myoma and Sterility (Myom und Sterilität) *Dissertation* Berlin 93
By Zentralblatt f d ges Gynäk. Geburtsh d Grenzgeb

A detailed review of the literature follows the statistics of the Amsterdam Gynecological Clinic which includes 1904 myomata. Of these patients 814 or 75.5 per cent were married and 241 of these or 29.9 per cent sterile. 264 or 24.5 per cent were unmarried. Among the 814 married patients there were 190 children and 441 abortions; that is 22.5 per cent children and 53.5 per cent abortions or counting out the nulliparae 32.2 per cent children and 0.8 per cent abortions. The author concludes:

(1) There is a certain coincidence of myoma and sterility or at least decreased fertility.

(2) The proportion between nulliparae and multiparae is the same among myoma patients as among women in general.

(3) Fertility is less in married myoma patients than in women in general and abortion more frequent.

(4) In myoma patients who abort the time of menses is the cause of the abortion in about half the cases. Generally the tumor follows the cessation of conception.

(5) Myoma is not an absolute reason for sterility though they are often found together in the statistics.

(6) The multiplication of myoma with sterility is less in subserous myomata with them abortion is less frequent and fertility high.

(7) In sterile married women intrauterine tumors predominate.

(8) Primary sterility (139 cases) is more frequent than secondary (12 cases) primary 82 per cent secondary 9 per cent of the Amsterdam Clinic.

(9) In primary sterility the tumor increases with the age and duration of the marriage in secondary sterility there is no fixed relation. On the average these patients come to the physician with tumors of the same size but at a younger age. In unmarried myoma patients the tumor is larger the older the patient.

(10) In early cessation of the sexual life fertility is independent of the size of the tumor which tends to show that it has developed after the cessation of sexual activity. *C. H. STRATZ*

Alexandroff F A Treatment of Fibromyoma of the Uterus with Röntgen Rays (Bla dung der Fibromyome des Uterus mit Röntgenstrahlen)
Ztsch f Geb rth u G 1913 xxviii 157
By Zentralblatt f d ges Gynäk u Geburtsh d Grenzgeb

The author has used roentgen rays in 15 cases of fibromyoma of the uterus. He reports 3 of the cases in which the effects were the most marked.

The first case was a 47-year-old woman who for 10 years had had menses lasting 2 to 3 weeks. The diagnosis was multiple fibroma. After irradiation there was a cessation of haemorrhage except for a very slight menstrual discharge and the tumor decreased in size.

The second case a 40-year-old patient was troubled with pain in the abdomen and profuse menstruation. The diagnosis was multiple fibromyoma. After irradiation for five or six months there was no more bleeding. The symptoms of the menopause decreased after scarification of the cervix and the tumor decreased in size.

The third case was a 39-year-old patient who had pain in the abdomen and a slight menstrual discharge. Examination showed myoma of the anterior wall and marked oedema of the cervix. After irradiation for a month and a half the oedema disappeared and the tumor became firmer. Menstruation ceased and the treatment was interrupted on account of severe symptoms of the menopause.

In the first two cases the rays acted chiefly on the ovary producing oligomenorrhoea in the first and amenorrhoea in the second in the third case they acted on the tumor itself with retrogression of the oedema and the tumor. Absorption of the serous rind was manifested by intoxication of the organism — symptoms of the menopause. In this retrogression of the oedema from the effect on the blood vessels the author sees the chief factor in the decrease in the size of the tumor. The more oedematous and softer the tumor the surer the result. The effect of the rays on the tumor itself demands further explanation. *G. H. STRATZ*

McGowan J A The Heart in Fibroid Tumors of the Uterus. *Surg Gynec & Obst* 1914 xxvii 80
By Surg Gynec & Obst

The conclusions reached by the author are based on the study of 500 post mortem records in the Philadelphia General Hospital. While admitting that fibroid tumors of the uterus are frequent and

associated with cardiac disease McGlunn denies the existence of the fibroid heart as a distinct entity. The study is divided into two parts. In the first part 131 cases of fibroid tumors of the uterus are tabulated. They are considered from the standpoints of race age clinical diagnosis position of the tumor size of the tumor heart lesions present and pathological cause of death. In the second series 223 cases of fibroid tumors of the uterus are contrasted with an equal number of cases of the same ages and races without fibroids and the heart lesions present in both types compared.

The author discusses the various theories which have been advanced to explain the relationship between fibroid tumors of the uterus and heart disease. In considering the possibility of the existence of a fibroid heart he dismisses all theories except the following: (1) A toxin produced during the growth of the tumor causes degenerative changes in the heart and blood vessels. (2) Fibroid tumors of the uterus are only a local feature of a general process. He holds that none of the other theories advanced will fit every case and that if these theories were true a constant heart lesion would be found present in all tumor cases and that in the largest tumors the most marked heart changes would be found. The study of the first series however does not bear out these contentions. In the series he found 35 distinct varieties of heart lesions one of which mitral sclerosis was not present in more than 45 of the cases. He also found that the largest and most seriously diseased hearts were found in the cases with the smallest tumors.

In the second series of cases he shows that heart lesions are just as common in the non fibroid cases as in the fibroid ones. The following are the conclusions submitted:

1. From the report a definite entity of a fibroid heart cannot be sustained.

2. If the fibroid tumors of the uterus were the cause of all the heart lesions described in this study then every tumor regardless of its size and situation should be removed—a contention that the most radical would scarcely agree to.

3. Uterine myomata occurring in middle and advanced life are practically always associated with sclerotic heart lesions. These lesions are a part of a general process and bear no relation to the fibroid.

4. Large tumors by increasing the work of the heart and tumors causing pressure on the pelvic circulation may produce hypertrophy and secondary dilatation of the heart.

5. Anemia from hemorrhage, infections and certain degenerations of the tumor may affect the heart secondarily giving rise to such as fatty degeneration brown atrophy and cloudy swelling.

6. The majority of cases of fatty degeneration brown atrophy cloudy swelling myocarditis etc. found in connection with fibroid tumors of the uterus are not caused by the tumor but by conditions entirely foreign to the tumor.

Kronig Röntgen Rays Radium and Mesothorium in the Treatment of Uterine Fibroids and Malignant Tumors. *Am J Obst & Gynec* 1914, *vol* 305

The technique used in the Freiburg Clinic differs from that usually advocated in that the largest possible doses are used as routine from the beginning of treatment. While at this clinic it is not considered that every case requires an immense dosage yet it is impossible to tell in advance whether a given case will be favorably influenced with small dosage and again small dosage in the beginning of treatment very frequently causes an increase in the bleeding the clinic therefore has adopted the large dosage method both because it is more rapid in its effects and because it is free from the danger of increasing the bleeding at the beginning of treatment a factor of great importance and the results from this technique have been entirely satisfactory.

Up until this time 350 myoma cases have been treated at the Freiburg Clinic by means of the X rays and have not in a single instance failed to produce an amenorrhea. An endeavor has been made to gauge the treatment in young individuals so as to bring the quantity of blood within the normal but the attempts have not been satisfactory since relapses are frequent unless absolute amenorrhea is produced. The X rays produce sterility along with the amenorrhea so where this result is not desirable the X rays are not to be used. The clinic has abandoned the operative treatment of fibroids for the treatment by the roentgen rays except in those occasional cases where it appears that a myomectomy may leave a functioning uterus for a young woman. The argument is that the roentgen rays are just as efficient in their action as the total ablation and is devoid of all danger to life, while an operation carries with it an operative mortality even if it is small. The artificial menopause symptoms are in general not nearly so pronounced as after operation.

According to the technique employed an average of 5 to 8 sittings at intervals of 18 days are necessary to perfect a result so that a cure requires from 3 to 4 months time. The patient is given two extra treatments after the desired amenorrhea is produced. With perfected technique skin burns are absolutely avoided so that the treatment carries with it no pain or danger.

The action of radium and mesothorium upon myomata is due to their gamma rays the other rays have to be filtered out and since the gamma rays constitute only about one per cent of the ray output of these substances the dosage necessary to produce results must be very large. The substances may be applied to the abdominal surface of the tumor or capsules may be placed in the vagina in the vicinity of the tumor or a capsule may be placed within the uterine cavity. The intra uterine method is more rapid in its result but associated with unpleasant by effects.

The attempts to treat ovarian tumors with mesothorium and X rays have not been successful

Three cases of hypertrophy of the prostate were treated at the clinic in the same manner. In two there has been decrease in the size of the prostates to touch and some improvement of the bladder symptoms, one case still under treatment. There was seen great decrease in size of gonads as the result of the act on of mesothorium.

There were treated 254 cases of cancer at the clinic with roentgen rays and radium this includes all cases some treated after operation for the prevention of secondary growths as well as those cases where no operation had been performed. Of 150 cases treated entirely without operation 140 were treated by the combined use of mesothorium and the roentgen rays while 10 cases were treated with roentgen rays alone.

Sixty four cases were treated for the prevention of secondary growth after operations for cancer of these 43 were treated almost exclusively with unfiltered rays while 21 cases were treated partly with filtered and partly with unfiltered rays. While 23 of the 43 cases undoubtedly died of carcinoma from following the subsequent history of 20 of the 21 cases proof is shown that 9 are undoubtedly free of carcinoma. While sufficient time has not elapsed to speak of them as definitely cured cases yet the result is so unusual that it will have to be credited to the treatment that recurrences are not so frequent when filtered rays are used after operation.

In arm g t op mo as to the results of their
therapeutic sc f radio acti substance in the 40
cases the clinic d idies the ases into () those n
which the cancer is limited to the primary focus
() those cases in which the surrounding tissue has
bee n added nd (3) those cases i which not only
the neighborg tis is liv been vaded but in
wh h there ha also been metastases n dist t
orin

The h i e been able to ure no ase of meta tatic ca ce. In those cases where the disease hns n vaded neighbor g tissue they also have been un able to produ e a cure though they have seen some rema ble retrogressions and tr nsitory ctivation of growth but a f r as they ar able t dige r newel a ti ty of the dis ase occurs lat r. I h y h ve had c ses where n t only retrogression of growth n th p mmary focus has occurred but also n the par m trium d n th e ghbon g glands so that re n em ould n lo ge be found du ing observ tion period f more than a year.

In case of the first group where the cancer still
localised, the cases of advanced beyond the
primary site, the sort of cases ordinarily termed
operable, there have been 11 to use a complete
dissection, 11 of which are a far as can be recog-
nised histologically seen after laparotomy to the
tissues, the ascites cure to get observed in the
series, none of the 11 cases of the abdominal
wall that have been made observation for only two
years.

Giles A. E.: A Plea for Early Operation in Cases of Uterine Fibroids *Med Press & Co* 1914
xcvii 67 By Surg Gynec & Obst

Ciles advocates the early operation on fibroids because he believes more conservative operations may be performed such as myomectomy also if the diagnosis is in error the patient a condition may be bettered and perhaps a life saved if the tumor turns out to be malignant an operation regardless of the age of the patient if the symptoms warrant it

The author concludes that operations relieve patients from invalidism and that waiting for the menopause is not the rational treatment as the symptoms do not then subside. **LIGNE CARY**

Mapes C. C. Infantile Menstruation *Pub at 16*
94 XVI 24 By Surg Gynec & Obst

The author opens his paper with a discussion of the theories of menstruation which in brief are these

The uterine congestion theory of Hippocrates the lunar theory of Aristotle the mechanical theory of Galen and the chemical or fermentative theory specified by the Hebrew law. The more recent theories are the nervous automatic control advances by Tait Raymond Robinson and Martin the internal secretion of the ovary theory as advanced by Gore and the theory that maturation of the graafian follicle induces ovarian congestion and thus reflexly a pelvic congestion results.

The author believes that infantile menstruation owes its origin to precocious maturation of the graafian follicles. Mapes says that this however seems fallacious as menstruation has been noted in men in whom the ovaries have been congenitally absent and in women after both ovaries and tubes have been removed.

The following cases are cited

1 Seven days after delivery the infant menstruated for 3 days. This was repeated every 28 days and there was an unusual amount of milk in the infant's breasts.

2 The menstruation began in a child 4 days after birth and was regular thereafter with milky fluid oozing from the nipples.

3 A child 3 years old seen at autopsy had menstruated every 3 weeks since birth. In this case the ovaries showed signs of ancient and recent ovulation.

4 Menses began in this case at six months of age
5 In this case menstruation began at fourteen
months

The author cites several other cases that have about the same history and says that several such cases have been observed in Louisville in recent years two of which have fallen under his own not ce

EDGE & CAR

Radical Operation for Prolaps

associated with cardiac disease. McClan denies the existence of the fibroid heart as a distinct entity. The study is divided into two parts. In the first part 131 cases of fibroid tumors of the uterus are tabulated. They are considered from the standpoint of race, age, clinical diagnosis, position of the tumor, size of the tumor, heart lesions, prevent and pathological cause of death. In the second series 113 cases of fibroid tumors of the uterus are contrasted with an equal number of cases of the same age and races without fibroids and the heart lesions present in both types compared.

The author discusses the various theories which have been advanced to explain the relationship between fibroid tumors of the uterus and heart disease. In considering the possibility of the existence of a fibroid heart he dismisses all theories except the following: (1) A toxin produced during the growth of the tumor causes degenerative changes in the heart and blood vessels. (2) Fibroid tumors of the uterus are only a local feature of a general process. He holds that none of the other theories advanced will fit every case and that if these theories were true a constant heart lesion would be found present in all tumor cases and that in the largest tumors the most marked heart changes would be found. The study of the first series however does not bear out these contentions. In the series he found 35 instances of heart lesions, one of which mitral sclerosis was not present in more than 45 of the cases. He also found that the largest and most serious lesions were found in the cases with the smallest tumors.

In the second series of cases he found that heart lesions are just as common in the non-fibroid cases as in the fibroid ones. The following are the conclusions submitted:

1. From this report a definite study of fibroid heart cannot be instituted.

2. If the fibroid tumors of the uterus are the cause of all the heart lesions described in this study then every tumor regardless of its size and situation should be removed. The contention that the most fibroid would rarely give rise to

3. Uterine myomata occurring in middle and advanced life are practically always associated with sclerotic heart lesions. These lesions are part of a general process and bear no relation to the fibroid.

4. Large tumors by interfering with the work of the heart and lungs, produce secondary and tertiary circulation may produce heart failure and secondary dilatation of the heart.

5. Anemia from hamorrhages, infections and certain degenerative changes in the tumor may affect the heart secondarily using things such as fatty degeneration, iron deficiency, and local swelling.

6. The majority of cases of fatty degeneration, brown atrophy, cloudy swelling, myocarditis, etc. found in connection with fibroid tumors of the uterus are not caused by the tumor but by conditions entirely foreign to the tumor.

Krönig, Röntgen Rays, Radium and Mesothorium in the Treatment of Uterine Fibroids and Malignant Tumors. *Am J Obst & Gyn* 1914, 1: 205. By Surg. Cynec. & Obst.

The technique used in the Freiburg Clinic differs from that usually advocated in that the largest possible doses are used as routine from the beginning of treatment. While at this clinic it is not considered that every case requires immense dosage yet it is impossible to tell in advance whether a given case will be favorably influenced with small dosage and again small dosage in the beginning of treatment very frequently causes an increase in the bleeding. The clinic therefore has adopted the large dosage method both because it is more rapid in its effect and because it is free from the danger of increasing the bleeding at the beginning of treatment. A factor of great importance and the results from this technique have been entirely satisfactory.

Up until this time 150 myoma cases have been treated at the Freiburg Clinic by means of the X-rays and have not in a single instance failed to produce an amenorrhea. An idea or has been met to gauge the treatment in young individuals so as to bring the quantity of blood within the normal limit the attempt has not been satisfactory. In relapses are frequent unless absolute amenorrhea is produced. The X-rays produce toxicity along with the amenorrhea so where this result is not desirable the X-rays are not to be used. The clinic has abandoned the operative treatment of fibroid for its treatment by the roentgen rays except in those occasional cases where it appears that a myomectomy may be a functional uterus for a young woman. The argument is that the roentgen rays are just sufficient; their action as the total ablation and devoid of all danger to life while an operation (as) with it an operative mortality is small. The official in no case symptoms are in general not nearly so pronounced as after operation.

According to the technique employed an average of 10 sittings at intervals of 4 days are necessary to perfect a result so that one requires from 3 to 4 months time. The patient is given two extra treatments after the desired amenorrhea is produced. With perfect technique skin burns are absolutely avoided and the treatment rises with it in the number of danger.

The action of radium and mesothorium upon myomata is due to their gamma rays. The gamma rays have been filtered out and since the gamma rays constitute only about one per cent of the gamma output of these substances the dosage in terms of gamma to produce results must be increased. The substances may be applied to the abdominal surface of the tumor or capsule may be placed in the vagina in the vicinity of the tumor. A cystic myoma placed with a uterine case. The intra-uterine method is more rapid in result but is associated with a pleasant by effect.

perineal body (10) widening of the perineum and lessening the size of the pudendae orifice

The operative procedure: as follows. Curettage and amputation of the cervix and anterior colporrhaphy followed by perineorrhaphy.

In the anterior colporrhaphy after the mucous flap is removed and the cervico-vaginal cellular tissue is exposed two anteflexing sutures are passed into the cervical end of the wound transfixing the mucous membrane edges. These pass upwards to the supravaginal segment of the cervix and out through the cellular tissue under the bladder. This procedure anteflexes the uterus the parametric sutures are then taken and the mucous membrane closed. Next the posterior colporrhaphy is done in which the agnate outlet is closed so as to admit the thumb only the posterior wall being closed with the Lambert stitch. The perineum is filled in by the segmental stitching interrupted sutures being used. The skin is closed by Michel's pins.

The author has carried out the above procedure twenty times without a mortality or a recurrence.

ELIENE CARY

Van Teut m F A The Causes of Retroflexion
(Die Ursachen d Retroflexion) Nederl W d
sch v erl k nu q 3 u 549
By Ze tralbi f d ges Gyn k u Geboortsh d Grenzgeb

The author based his study on 1,438 patients of the Leiden gynecological clinic. The frequency was 6.6 per cent. In 60 patients of the medical side there were 3.9 per cent of retroflexion and in 951 parturient women there were also 5.5 per cent retroflexions from which he draws the conclusion that birth has no effect in producing retroflexion.

After a thorough discussion of the literature the author comes to the conclusion that the uterus is held in anteversion only by the tonus of its tissues. Retroflexion is produced by (1) Loss of tone from asthenia infantilis, tuberculosis, anemia, chlorosis, exhausting diseases, senility, and post mortem relaxation; (2) pressure on the anterior wall from tumor of rectum or intra-abdominal pressure; and (3) traction on the posterior wall by tumors or adhesions. The first of these causes is the most frequent and most important. Congenital retroflexion is very rare. Retroflexion is not infrequently delayed.

C. H. STRAT

Vendes De Leon M A Alexander Adams Opera
 ti n (Z Alexand Adams Operat) M /
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 B Ze t albl f d ges G nak C burish d C renzgeb

In retroflexion of the uterus if the position is corrected an improvement in the subjective and objective symptoms obtained in the majority of cases. This is especially true of mobile retroflexion, in which there is not an unhindered freedom of motion of the whole organ as well as between the upper and lower part of it. Pessaries which were formerly used to correct the position cannot be

used in virgins with small cervixes in cases where the pelvic musculature is injured or if the mucous membrane is inflamed and sensitive at any rate after they are removed the condition generally recurs.

No operation is justified that does not preserve the physiological mobility of the uterus. This condition is best fulfilled by shortening the round ligaments by an Alexander Adams operation. After the operation a pessary, generally Hodges' is worn for 4 or 5 weeks and the patient can get up on the tenth or twelfth day. If there is also an inguinal hernia the hernial sac is freed from the ligament and removed by Bassini's method.

Among 5,000 patients since 1902 the author has had 1,360 cases of retroflexion of the uterus. Two hundred and sixty of these were immovable of the remaining 1,000 733 were treated non surgically, 235 replaced by pessaries, and 132 operated on by Alexander Adams method. There were no deaths once the bladder was injured and sutured without any bad results once there was pneumonia the results were generally satisfactory. He examined 56 of the patients later and found three recurrences which the patients were not aware of. In one of these patients there had been bilateral inguinal hernia and severe enteroptosis. He had uniformly favorable reports of most of the other patients, either from themselves or through their physicians. 1 of the patients — 4 primiparae and 21 multiparae — became pregnant without a recurrence.

WOLF

Signart W. Avoiding Peritonitis in the Operative Treatment of Rupture of the Uterus and Perforating Wounds of the Uterus (Die Vermeidung der Peritonitis bei der Operation der Uterusruptur und der perforierenden Uterusverletzungen). *Arch f Gynäk* 1913 c 106

By Zentralbl f d ges Gynäk Geburtsh u d Grenzgeb

The rupture of the uterus is the most serious and dangerous complication of labor accompanying it there are two dangers that threaten life hemorrhage and peritonitis To prevent these two contingencies is the aim of medical treatment but of the two peritonitis is by far more difficult to avoid

Rupture of the uterus should be treated in the hospital and M mburg's method will be found a valuable aid in transporting patient If the child is in the abdominal cavity delivery by the natural route not always necessary as bleeding is often light on account of contracture of the uterus If there is sign of severe internal hemorrhage the child should be immediately extracted through the ruptured uterine tube applied afterward If the child has not escaped from the uterus or only partially so delivery should be performed by the natural route Tamponade and drainage are unsafe methods of stopping the hemorrhage operation being the only safe method in incomplete rupture without severe laceration of the tissues This may be signed Suture of the rupture

formed 9 times the interposition of the uterus was accomplished through the abdomen. Cramer prefers the reversed T incision.

As the interposed uterus if not covered with mucous membrane may pull out the anterior vaginal wall; a funnel shape Cramer like Schruetz recommends that it be completely covered over with vaginal mucous membrane. The uterus is always fixed with a series of interrupted sutures from the fundus to the cervix and the vagina tamponed after the operation. The abdominal cavity is accurately closed by suturing the vesico-uterine fold to the posterior cervical wall.

In many cases ligation of the bladder is necessary. In one case in which anterior and posterior colporrhaphy had been performed 6 years before the bladder ruptured the edges could not be brought together and sutured on account of the scar after the removal of the permanent catheter on the twelfth day the bladder was perfectly continent. If there is incontinence of urine as well as prolapse in addition to replacing the bladder the author ligates the neck of the bladder and urethra the cause of the incontinence he thinks is a tearing of the urethra and bladder from their supporting tissues.

In order to narrow the vault of the vagina which is frequently very flaccid he recommends the resection from the reversed T incision of an equilateral triangle with its apex at the urethral prominence and its base at the transverse incision in the cervix. In this way the ligaments of the uterus can be stretched and tightened by transverse sutures.

In the author's opinion exploratory curettage should precede the operation of prolapse. He prefers excision of the mucous membrane to cauterization. In myoma he uses the wedge incision. If necessary the cervix is amputated after the interposition and the closure of the anterior colporrhaphy wound. The crura of the levator are united in the median direction by 4 to 6 buried sutures. Two of the cases cited one was complicated by a ruptured tubal pregnancy and died of peritonitis. In the second case the patient died of embolus of the lung. Two cases who had to have a hysterectomy performed afterwards on 10 different occasions. Among 140 cases examined afterwards there were 4 recurrences giving 2.9 per cent recurrences and 97.1 per cent permanent recoveries. P. MEYER

Krauze L. Operative Treatment of Prolapse of the Pelvis (7 reports on 114 patients) (last 2 cases of 114). *Praxis* 4, 1913, 9, 15, 16. By Zentralblatt für Gynäkologie.

The author gives a review of the present view as to the etiology of the condition and a criticism of the different methods of operation. Resection is a severe operation with 11 per cent mortality. The operation scar may give rise secondarily either to stenosis or because of rupture to a recurrence. Colopexy through the anterior abdominal wall gives 60 per cent of recurrences and may lead to the

formation of dangerous bands of adhesion. Operations for the repair of the pelvic floor have not been very successful.

The author prefers Rehn Delorme method of incising the mucous membrane of the prolapsed section in a cylindrical form and uniting the edges of the defect by a series of sutures. If he operated on 9 cases by this method and gives the case histories. The severe hemorrhage which would otherwise take place is avoided by the elastic ligation of the prolapse at the anus. The oldest patient was 68 the youngest 22. Most of the cases were operated on under local anesthesia the results were good and there was recurrence in only one case after a year. In two cases in elderly women a slight prolapse after a few weeks was remedied by a plastic operation on the floor of the pelvis. In simple mild cases the method is excellent and gives few recurrences. In severe cases it may be combined with a plastic operation on the floor of the pelvis the second operation should be performed a few weeks after the first. W. MEYER

Harris, S. H. Ventrofixation of the Uterus with a Report of Two Cases of Dyspareunia. *Am. J. Surg.* 1914, 22, 61. By Surg. Gynec. & Obst.

The author gives the teachings of various authorities on this subject and reports two cases from his experience. The first patient aged 33 III para was seen at term. Ventrofixation had been performed on an operation two years before. Twelve months after this she had been delivered of a dead child feet first after a difficult labor. The child was found in a shoulder presentation the cervix dilated 4 cm and fully dilated. The child was delivered by podalic version.

The second patient a primipara aged 19 had a cesarean operation followed by some infection which resulted in an enteritis. There was a shoulder presentation and a partial placenta previa. External version was performed and the child brought down. The child was lost but the mother made a good recovery. C. H. DAVIS

Mamourian M. The Radical Cure of Prolapsus Uteri in Elderly Women. *B. J. O. G.* 1914, 367. By Surg. Gynec. & Obst.

The author believes that a radical cure for prolapsus in elderly women can be done entirely by the vaginal route and with this in mind he has devised an operation which he has been using with complete success.

To correct the condition of prolapsus the following conditions must be complied with: (1) Reduction of the weight of the uterus proper (2) removal of excess cervical substance (3) anteversion of the uterus (4) narrowing of the vaginal canal (5) lengthening of the posterior vaginal wall (6) restoration of the parallelism of the vagina to the conjugate of the pelvis (7) restoration of the continuity of the cellular tissue around the new vagina (8) repair of the pelvic diaphragm (9) repair of the

perineal body (10) widening of the perineum and lessening the size of the pudendal orifice

The operative procedure is as follows Curettage amputation of the cervix and anterior colporrhaphy followed by perineorrhaphy

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The author has carried out the above procedure twenty times without a mortality or a recurrence

ELFRED CARY

Van Teutem E A The Cause of Retroflexion
(Die Ursachen der Retroflexion) *Vierteljahrsschrift für Geburtshilfe und Gynäkologie* 39 3 u 540

By Zentralblatt für Geburtshilfe und Gynäkologie

The author based his study on 1438 patients of the Leiden gynecological clinic The frequency was 16.6 per cent In 200 patients on the medical side there were 5.3 per cent of retroflexions and in 951 parturient women there were also 5.5 per cent retroflexions from which he draws the conclusion that birth has no effect in producing retroflexion

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C H STANT

Vendres De Leon M A Alexander Adams Operation (Für M und Adams Operation) *Monatsschrift für Geburtshilfe und Gynäkologie* 39 3 u 536

By Zentralblatt für Geburtshilfe und Gynäkologie

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Among 5000 patients since 1902 the author has had 1360 cases of retroflexion of the uterus Two hundred and sixty of these were immovable of the remaining 1100 733 were treated non surgically 235 replaced by pessaries, and 132 operated on by Alexander Adams method There were no deaths once the bladder was injured and sutured without any bad results once there was pneumonia the results were generally satisfactory He examined 56 of the patients later and found three recurrences which the patients were not aware of In one of these patients there had been bilateral inguinal hernia and severe enteroptosis He had uniformly favorable reports of most of the other patients either from themselves or through the physicians 5 of the patients — 4 primiparae and 1 multiparae — became pregnant without a recurrence

WOLFF

Signart W Avoiding Peritonitis in the Operative Treatment of Rupture of the Uterus and Perforating Wounds of the Uterus (Die Ausschaltung der Peritonitisgefahr bei der operativen Behandlung der Uterusruptur und der perforierenden Uterusverletzungen) *Archiv für Gynäkologie* 93 3 196

By Zentralblatt für Geburtshilfe und Gynäkologie

The rupture of the uterus is the most serious and dangerous complication of labor accompanying it there are two dangers that threaten life hemorrhage and peritonitis To prevent these two contingencies is the aim of medical treatment but of the two peritonitis is by far more difficult to avoid

Rupture of the uterus should be treated in the hospital and Momburg's method will be found a valuable aid in transporting patients If the child is in the abdominal cavity delivery by the natural route is not always necessary as bleeding is less slight on account of contraction of the uterus If there are signs of severe internal hemorrhage the child should be immediately extracted through the rupture and Momburg's tube applied afterward If the child has not escaped from the uterus, or only partially so delivery should be performed by the natural route Tampon and drainage are unsafe methods of stopping the hemorrhage operation being the only safe method in incomplete rupture without severe laceration of the tissues this may be vaginal Suture of the rupture is

seldom successful therefore vaginal total extirpation is to be preferred. If there are hematomata in the parametrium laparotomy is to be preferred even in incomplete rupture the injured parametrium must be removed and the clots cleaned out.

In complete rupture laparotomy is indicated. Suture of the wound should be undertaken only if the laceration of the tissues is slight otherwise total extirpation is to be preferred. The surest means of avoiding infection consists in absolutely closing off the pelvic wounds from the abdominal cavity. Therefore in addition to the primary closing suture of the peritoneum a second continuous suture similar to Lembert's serous suture should be used. Sigwart describes twelve cases of rupture that were treated in this way. Three of the women died of loss of blood, the remaining nine recovered without any severe peritoneal symptoms. Sigwart then discusses penetrating wound of the uterus. Here too he recommends laparotomy with the aim of cleansing the abdominal cavity but in these cases the uterus does not need to be removed. Careful covering over of the wound with peritoneum is important and the author recommends that the site of perforation be left outside the peritoneum. (Lancet, 1914, 2, 10, 1048-1050.)

Breitstein L. I. Rupture of the Uterus Following Cesarean Section. *J. Am. M. Ass.* 1914, 12, 689. B. S. G. Gynec. & Obst.

This case is interesting from the fact that the patient who was 17 1/2 years of age had a normal pelvis and cesarean section was done because of a large hematoma which blocked the pelvic canal. The third day following operation the temperature rose to 38.4 C. and on the fifth day there was a profuse purulent discharge from the vagina. An abdominal abscess developed but the temperature gradually fell to normal on the fifteenth day. About two years later he became pregnant and was delivered spontaneously through the vaginal route—the puerperium was not complicated. The third and last pregnancy occurred about eighteen months later.

In the eighth month of the last pregnancy he was admitted to the hospital because of a complaint of irregular periods not too good in character. Her abdomen was distended and he looked like a pregnant woman. Her temperature was 38.6 C. pulse 100 and respiration 24, no nuchal edema of the mouth or shock was present. The abdominal examination was not satisfactory. The position of the fetus could not be made out nor could the fetal heart tones be heard. She was left in the day before the patient's entry into the hospital her bowels moved, she had no pain in the hospital, but at four hours and she felt more discomfort. She sat up in a chair and when he walked about the room he felt was peculiar. He would bend over and hold the lower part of the abdomen with both hands.

A careful examination made at this time revealed

the occipito anterior lie. The heart was freely movable but no fetal heart tones could be heard. The vagina was roomy and free from blood. The cervical canal was not obliterated, the cervix was hard and thick. On introducing the finger into the cervix and lower uterine segment it was found empty. The patient was immediately operated upon.

On operation the intact bag of water containing the fetus was seen free in the abdominal cavity. The membranes were ruptured and the dead baby delivered. The placenta was found lying on the external anterior surface of the uterus. The uterus was fairly well contracted and the rupture was seen to be confined to the old scar from the cesarean section. There was no free blood in the abdominal cavity but a black clot was removed from the left broad ligament. A supravaginal hysterectomy was performed leaving the left ovary behind. The abdomen was closed with a drain in its lower portion. The post-operative history was uneventful.

After briefly reviewing the case histories from the literature the author comes to the following conclusions:

1. A cesareanized woman who gives a history of an infection with purulent discharge from the vagina in the puerperium is a good candidate for rupture of the uterus in one of her subsequent pregnancies.

2. The mere fact that a cesareanized woman has delivered herself spontaneously is no reason for believing that she is free from the danger of rupture of the uterus in her future pregnancies.

3. Rupture generally takes place in a year resulting from improper wound healing in the presence of infection.

4. The implantation of the placenta on the site of the scar may weaken the uterine tissue so that it may rupture under the strain of labor.

Cesarean section should be limited to those cases in which it is strictly necessary.

6. A cesareanized woman should be in the hospital during the last month of her subsequent pregnancies so as to be under constant medical supervision. (Lancet, 1914, 2, 10, 1048-1050.)

W. O. Treatment of Complete Rupture of the Uterus (Beitrag zur Therapie der kompletten Uterusruptur). *M. H. f. Geb. u. Gynäk.* 1914, 47.

By Zentralbl. f. d. Gynäk. Geburtsh. d. Grenzgeb.

The author reports four cases of rupture of the uterus which he has observed at the Innsbruck Clinic since 1880. The first two cases were treated conservatively. There were no prodromal symptoms of the rupture. Delivery was accomplished by the natural route there was no hemorrhage and neither the fetus nor placenta were extruded into the abdominal cavity. In one case the peritoneum was intact and yet both died of peritonitis. The third and fourth cases were operated on at

cessfully. The uterus was emptied through the rupture though in these cases neither the fetus nor placenta was in the abdominal cavity and there was no serious degree of hemorrhage. In the fourth case there were no signs of distension the rupture could be diagnosed only by the sudden appearance of pain difficulty in breathing and the free mobility of the fatal head.

From his own cases and a study of the literature Nebeke concludes that in every complete rupture of the uterus immediate operation is indicated. Tamponing is only to be regarded as a temporary means of stopping hemorrhage or to be used in cases where operation for some reason cannot be performed. The choice of the operation must depend on the case. He warns against simply suturing the rupture on account of technical difficulties and danger of infection and recurrence. Whether total extirpation or supravaginal amputation is the operation of choice will depend on the extent and location of the rupture but both should be performed by the abdominal route. The question of drainage will depend on the operator but Nebeke recommends drainage of the peritoneum into the true pelvis. Only by immediate operation in all cases can the present mortality of 30 per cent be reduced.

BLE 1.

ADNEXAL AND PERIUTERINE CONDITIONS

Eckler R. Ovarian and Parovarian Tumors (Liberal und Parovarialtumor) *M. n. tsch. f. Geb. u. G.* 1913 93 35.
By Zentralbl. f. d. ges. Chir. Geburtsh. u. Gyn. 1913 35 35.

A collection of the material from the Vienna Rothschild Hospital for the past 6 years included 211 ovarian tumors 4 of which were malignant. There is nothing particularly new in their symptomatology and diagnosis. There were mistaken diagnoses in 3 cases of tumor of the kidney of the mesentery 2 of the stomach and 1 of the pancreas. The indication is to remove every ovarian tumor because of the danger of torsion of the pedicle and of malignant degeneration. This is by laparotomy which was performed through a median incision 8 times and through a Pfannenstiel incision 18 times or by colpotomy which was performed 5 times.

The operation of choice in benign tumors is ovariectomy 1 malignant ones the abdominal operation generally with drainage. In benign cases the mortality was 12 per cent in malignant cases the primary mortality was 89 per cent. Of the 211 tumors 17 were intraligamentous, 9 had pedicles and 17 had twisted torsion of the pedicle—the most extreme case of torsion was 360°. Two there was rupture and three times suppuration. 10 cases operation was performed during pregnancy 60 cases were simple serous cysts 42 serous cysts 46 de moid cysts 4 carcinoma and 3 sarcoma. In 11 cases the new growth originated from the parovarium. Moos

Djedoff W. P. Bilateral Ovarian Cyst Complicated by a Right Sided Extra Uterine Pregnancy. Operation Recovery. The Fertilization of the Ovum in the Graafian Follicle of the Diseased Ovary. Causes of Extra Uterine Pregnancy (Doppel eitrige Eierstock. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 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He discusses the reasons why fibromata of the vagina generally appear in the posterior wall. Most modern authors accept the possibility of such tumors originating from a Wolffian remnant. He argues with Ramondini the possibility of fibromata of the urethra developing in the vagina. He discusses the diagnostic signs and concludes that in case of a dermoid tumor originating from Wolff's duct.

per cent of all cases where there had been

Snelair J F In estigations in the
Arch Ped 1916 914 x 29 By Surg Gynec & Obst
Gynecological Examination

In but one of the reported cases in which aetiology was positively gonorrhoeal at some time during the course of the disease were the endoscopic findings normal. In all others of this group there were haemorrhagic pots hyperaemia, free pus or about the rxix. In the highly suspicious cases in which aetiology were of course not confirmed by endoscopy the endoscopic appearances were again normal in but one case.

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gonorrhea the endoscopic appearance
normal in but one case
A third table in the report gives the results of the
complement fixation test which was positive in 50
percent of the ten cases selected from Group 1
proved negative in cases selected from Group 2
A fourth table in the report shows the most valuable ad-
vanced aids to the endoscope
recomend the endoscope
in the diagnosis of gonorrhea and urethritis
(trans) D H C

Smith G G To Treatment of Gonococcus
Vulvovaginitis with Further Observations
on the Value of the Complement Fixation
Test in Management of This Disease Am
J Du Child 94 v 60 By Surg Gen & Obst
A practicable method of treating
gonorrheal girls

The description of specific ulcers together with a discussion of the question of the practicability of a method of treatment in little girls to the

EXTERNAL GENITALIA

Küster H The So-Called Cysts of the Vagina
(Stript) K Kenntnis der sogenannten ten Scheiden
cysten) Zischr / Geburt k = Gy sk 913 132 6
By Zentralbl f d ges Gynäk u Geburtsk d Grengab

case of vaginal cyst in a 36 year-old woman
the cystic egg lay in the posterior
membrane in the show

BITTENSTALS

Septum (Leiomyoma septi) 913 12xv 816
Zishu (Gek. 1st. u. Gynak. u. Geburth. s. d. Gyngeb
By Zentralb. (d. ges. Gynak. u. Geburth. s. d. Gyngeb)

The patient was a 49-year-old healthy woman whose last child had been developing between 9 months a tumor had been developing between the labia majora. It was as large as a mandarin looked like a cystocele and had no connection with the uterus or other organs. It was unpalpated

real cure of this affection and its relation to the complement fixation test comprise the substance of this article. The heralded efficacy of gonococcus vaccine in children is much doubted as a dependable therapy.

The method employed by the author consists in a preliminary irrigation of the vaginal parts with a solution of either sterile water 2 per cent boric acid soda bicarbonate a teaspoonful to a quart which is especially soothing or potassium permanganate 1 to 800, especially when there is a tendency to chronicity. If the inflammation is very acute the local treatment is deferred a few days.

The child is placed on a table back down hips elevated and the solution (slightly warmed) allowed to run into the vagina through a soft rubber French catheter size 12 or 14 which has been well lubricated and inserted carefully through the hymen. Immediately following irrigation one or two drachms of a silver salt usually argyrol 10 per cent are injected through the catheter by a hand syringe. The catheter is withdrawn and the thighs kept in close approximation for fifteen minutes. In the more chronic cases the vaginal parts are gently swabbed with tincture of iodine or Perrin's solution. Leucorrhoea which is less often a complication than in the adult is treated by daily instillation of 1 or 2 ccm of 5 per cent protargol.

The treatment given preferably twice daily should cover at least a month but the patient should be seen at intervals thereafter. At least three months should elapse after cessation of the discharge before the case can be pronounced cured. The author believes that those discharges that reappear after a long quiescence are due either to reinfection often from the same source or are non-specific and arise from masturbation extension from dermatitis or infections from other organisms for which gonorrhoea is a predisposition. Long and persistant treatment will insure total destruction of gonococci in the great majority of cases notwithstanding the pessimistic views of such authorities as Edith Spalding who reports recurrence in 22 out of 26 cases.

Discussing the complement fixation test as a reliable positive blood is said to be very often present when there has been neither clinical nor microscopical evidence of infection for a long period. His hypothesis is that there is a slight tendency to gonococcal antigen to combine with antibodies due to allied microorganisms. Cases are reported that were under observation several years and which bear out this point.

EUGENE J. O'NEIL.

Twedy E. H. Lacerations of the Perineum and Their Treatment. *Urd. Pre. & Gyn. 94*
 1905. By Surg. Gynec. & Obst.

This subject has received but scant attention of late years and the general belief is that the last word has been said concerning it. Yet even to-day there exists a difference of opinion as regards the details of treatment. It was formerly held

that lacerations of the perineum occurred as a mere splitting through the median raphe and their importance was gauged by their length. The old classification of three degrees of laceration is still reproduced in textbooks and remains a dogma which has long since outlived its meaning.

The classical symptoms associated with partial rupture of the perineum are not dependent on the extent of the median rupture but rather on the severity of the lesion in the levator ani muscles. The perineum may rupture in one of three ways: (1) The rupture might occur through its center. (2) One or both lateral supports might give way. (3) These lateral supports without rupture might be dragged from their attachments. The last is the common way. The muscle fibers are seldom snapped asunder in the majority of cases they are torn from their insertion in the perineum. Such a catastrophe leaves the skin and superficial fascia intact. It is the rule rather than the exception to see vigorous and misdirected efforts made to support the perineum at a period long after its tearing has actually occurred. The intimate connection between the muscle and mucous membrane causes both structures to give way together and such tearing is almost invariably followed by a slight flow of blood. It should never be mistaken for the show. The retraction of the muscles can be felt by placing a finger in the vulva during a pain. The thin stretched out perineal skin rarely escapes uninjured from the subsequent processes of labor.

The appearance of the laceration and the best method of examining it is discussed. In the repair the author states that the most perfect anatomical reunion will not occur unless the upper and lower surfaces can be united throughout their widest extent and that any closure of the vaginal mucous membrane preliminary to deep suturing must diminish this area and prevent approximation of important muscle bundles. The employment of separate catgut sutures for the mucous membrane is not advised because of the liability of suture infection. Furthermore the muscle-fibers which lie to the outer borders of these mucous membrane rents are not placed in a position anatomically correct when fastened to the side of the mucous membrane tongue.

It is the author's custom to suture the perineum immediately after the cord is cut and before the fingers employed for exploring the wound have been withdrawn. If stout unchromicized catgut is employed the patient need never know she has been torn as she is still sufficiently under the anesthetic to be unconscious. The author uses a large needle 3 inches long semi-curved which is held without a needle holder. A long suture is used the end of which is wrapped around the little finger to keep it clean. The point is entered at the skin edge of the posterior extremity of the wound and is then rotated so as to make its concave surface look toward the floor. This enables it to sink deeply into the lateral tissues after which it is again rotated and pulled up until it lies beneath the tip of the index finger.

After excision of the mass Andrews embrocation was used and skin sutured without drainage. Recovery was uneventful confirming the excellent prognosis obtaining in tubo-ovarian as contrasted with intestinal strangulations. *Edgew. J. O'Neil.*

Fraenkel M. Dissolution of Parametritic Adhesions by Röntgen Rays (Lösung parametritischer Verwachsungen durch Röntgenstrahlen). *Z. Verh. f. G. 88 10 3 xxvi 1570*
By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Gynäk. 1917

In 75 per cent of all cases where there had been adhesions of the genital organ Fraenkel found they had improved or entirely disappeared after roentgen treatment. Firmly fixed uteri became movable, thick bands in the parametrium softer and less prominent, and bands in Douglas pouch could no longer be felt when placed under tension. In one case a firmly adherent ovarian cyst became movable. He explains the retrogression of adhesions under roentgen treatment as being partly mechanical (the myomata as they decrease in size loosening the adhesions by traction. In other cases it must be admitted that there is a reduction of the adhesions by the direct action of the roentgen rays. There was particularly true in adherent uteri and peritoneal tuberculous and in some cases the retrogression of the adhesions was confirmed on laparotomy.

FRAENKEL

EXTERNAL GENITALIA

Küster H. The So-Called Cysts of the Vagina (Beitrag z. Kenntnis der sogenannten Scheidenzysten). *Ztsch. f. G. u. Geb. Gynäk. 9 1 lxxi 611*
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Gynäk. 1917

In a case of agnate cyst in a 26 year-old woman the cyst the size of a goose egg lay in the posterior vaginal wall under the mucous membrane in the rectovaginal septum. Close examination showed one large and two small cysts the wall consisted of a double layer of non stratified muscle one longitudinal and one circular and an epithelial layer without glands the wall was 3 to 4 mm thick. The situation of the cyst under the agnate wall as well as the structure of the tissue pointed to a congenital origin. The author came to the conclusion that it originated from the wolffian duct which had not only persisted but developed into a structure similar to the vas deferens with secondary cystic dilatation.

KÜSTER

Lerdal, G. Leiomyoma of the Urethro-Vaginal Septum (Leiomyoma septi urethro-vaginalis). *Ztsch. f. G. u. Geb. Gynäk. 9 1 lxxi 816*
By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Gynäk. 1917

The patient was a 49 year-old healthy multipara whose last child had been born 9 years before. For 9 months a tumor had been developing between the labia majora. It was as large as a mandarin, looked like a cystic le and had no connection with the uterus or other organs. It was encapsulated

and was easily removed followed by the patient's recovery in 8 days. It was found to be made up of fibrous connective tissue with numerous elastic fibers. Connective tissue septa penetrated the tumor and between them were bundles of non stratified muscle fibers. There was no gland formation about 260 such tumors have been reported.

He discusses the reasons why fibromata of the vagina generally appear in the anterior wall. Most modern authors accept the possibility of such tumors originating from wolffian remnants. He argues with Raimondi the possibility of fibromata of the urethra developing in the vagina. He discusses the diagnostic signs and concludes that his case was a dermoid tumor originating from Müller's duct.

MORALLER

Schnitz J. F. Investigation in Vulvovaginitis. *A. Ch. Polist. 9 4 xxxi 9*
By S. G. Gynec. & Obst.

The unreliability of bacteriological examinations of smears and the misleading but characteristic tendency of vulvovaginitis towards periods of latency led the author to seek for improved methods of vaginal examination in children. Following the suggestions of Leopold and Rubin the electric lighted female urethroscope was used in the routine examination of eighty three infants and the results tabulated in two groups: (1) positive cases (2) highly suspicious cases.

Vulva vaginal and bichloride smears were made and the clinical conditions of the cervix and vagina were ascertained by endoscopic inspection, and carefully recorded along with the clinical appearance of the vulva.

In but one of the reported cases in which smears were positively gonorrheal at some time during the course of the disease were the endoscopic findings normal. In all others of this group there were hemorrhagic spots, hyperemia or free pus on or about the cervix. In the highly suspicious cases a white same result of course not confirmatory of gonorrhea the endoscopic appearances were again normal in but one case.

A third table in the report gives the results of the complete clinical test which was positive in 50 per cent of the 83 cases thus examined. The test proved negative in 33 cases and failed from Group 2.

As a result of this investigation the author recommends the endoscope as a most valuable and reliable means of diagnosis of doubtful and suspicious cases.

CHRISTIAN D. H. COX

Smith G. G. The Treatment of Gonococcal Vulvovaginitis with Further Observations on the Value of the Complement Fixation Test in Management of This Disease. *Am. J. Dis. Child. 9 4 89*
By S. G. Gynec. & Obst.

The description of a practicable method of treatment of specific vulvovaginitis in little girls together with a discussion of the question as to the

Hauser H Use of *G. nococcus* Vaccine in Gynecology for Treatment and Differential Diagnosis
(Differentialdiagnostische und therapeutische Bedeutung der Gonokokk Vakzine)
Koln 1913
By Zentralbl f g Gynak Geburtsh d Grenzgeb

The author gives a review of the history of vaccination. For diagnosis he used subcutaneous injections in varying doses of Reiter's polyvalent gonococcus vaccine of which 1 cc contains 0 to 100 million gonococci for local and general infections. Intravenous injection is not considered advisable.

The results were listed by examining for gonococci afterward and in many cases from histological specimen. If the local reaction persists for more than 24 hours it indicates that too strong a dose has been given and this condition is accompanied by an increase in the size of the tumors. Of 95 cases examined 21 that were certainly gonorrheal reacted positively while 9 that were surely non gonorrheal reacted negatively.

Among the positive cases there were 6 acute cases without demonstrable involvement of the internal genitalia but with a severe cystitis which may be regarded as a circumscribed focus. The remaining cases examined for differential diagnosis from non specific inflammations of the adnexa tubal pregnancy tuberculous tumors of the adnexa small cystomata peritonitis and exudate in the parametrium gave 42 per cent of absolute failures and 53 per cent of questionable results. Vaccination for diagnosis therefore is very useful but not absolutely reliable as negative results prove nothing and reaction may be prevented by old material or by mixed infection or by too small dosage.

Schridde maintains that gonorrheal salpingitis can be diagnosed absolutely from the histological picture. Hauser found that in 22 cases that were certainly gonorrheal the picture described by Schridde appeared but that in 14 that were probably non gonorrheal and reacted negatively it was also present.

Twenty three cases were treated with vaccine beginning 4 weeks after the patient was not in a negative phase caused by auto inoculation. With 0.3 cc of Reiter's vaccine containing three hundred million gonococci the effect on light reaction was increased by increasing the dose to 0.8 cc administered in 4 cases to 1.0 cc in the maximum dose.

Reactions were given during the menstrual period while there was fever and a rise of temperature was avoided if possible. In almost all cases there was improvement of subjective symptoms and general health. Of 8 tumors of the adnexa 5 were cured and 6 improved. Old tumors gave no results. Recent ones in cases of hydrosalpinx as large as an apple gave surprisingly good results. In 3 cases of cervical gonorrhea 1 of cystitis and of inflammation of Bartholin's gland there were good results and in case of arthritis there was rapid and complete recovery. Connective tissue changes and adhesions were not affected by vaccine treatment.

is not absolutely without danger it should be kept under careful observation with the patient if possible at rest.
Bischoff

Horwitz R E and Obolensky, N A. Giant Tumors of the Female Genitalia (Zur Kasuistik der Riesgeschwülste der weiblichen Geschlechtsorgane)
Ztschr f Geb u Gyn 1913 22

By Zentralbl f g Gynak Geburtsh d Grenzgeb

The first case was that of a 43 year-old para whose abdomen had been increasing in size for 4 years causing difficulty in breathing. A diagnosis was made of a combination of myoma of the uterus with ovarian cyst. Laparotomy showed a hard tumor of the posterior wall of the cervix located outside the peritoneum. There were adhesions with the sigmoid flexure and the left ureter which had been transformed into a hydro-ureter by pressure from the tumor. Healing was by first intention. The weight of the tumor was 17 kg. Microscopically the tumor consisted chiefly of connective tissue the lymph spaces were dilated. It was found to be a retrocervical fibroid of the uterus. A peculiarity of the case was the extraperitoneal situation of the tumor which was due to its development from the posterior wall of the cervix. To differentiate it from ovarian cyst was difficult.

The second case was a 38 year-old para whose last delivery had been 6 years before after that she had had pain in the abdomen which had increased in size the growth being very rapid for two years past. The diagnosis was ovarian cyst. Laparotomy showed a lone and a cystic subserous myoma of the uterus was found and there were adhesions with the uterus. The recovery was uneventful. The tumor weighed 22 pounds.

The third case was a 30 year-old para whose last delivery had taken place 6 weeks before. Soon after delivery the abdomen increased in size and at examination was the size of a ten months pregnant. She had difficulty in breathing and was troubled with constipation. Operation showed adhesions with liver and omentum 22600 gr. fluid was emptied on the puncture. An ovarian cyst was found on the left side. The recovery was uneventful.

The author comes to the following conclusions:
(1) The diagnosis in giant tumors generally has to be made on operation. (2) Laparotomy is to be preferred to vaginal operation. (3) Careful covering with peritoneum should be done to avoid ileus and sepsis.
Grunberg

Steffeck, P. Operation for Incontinence of Urine and Severe Genital Prolapse (Bericht über Operationen für Urininkontinenz und der grösseren Genitalprolapsen)
Ztschr f Geb u Gyn 1913 22

By Zentralbl f g Gynak Geburtsh d Grenzgeb

Since incontinence of urine is not permanently cured either by antiseptic colporrhaphy or by narrow

ing or rotation of the urethra. Steffek proposes a new operation for cases which are not affected by massage or pessary treatment. He makes a concave incision anteriorly in the anterior vaginal wall completely frees the bladder from the uterus and vagina, splits the anterior vaginal wall almost to the urethral opening, opens the peritoneum, brings forward the uterus, ligates both tubes with silk, sutures, replaces half the uterus in the abdominal cavity, inserts a purse string suture in the bladder, fastens the bladder peritoneum to the posterior surface of the fundus of the uterus at the top, fastens it in the upper angles of the vaginal wound and closes the first vaginal wound. The bladder is thus fixed not behind the uterus as in the Schauta-Wertheim operation but above it.

The author operates in the same way for advanced stages of prolapse when the patients do not expect any more children if they do he recommends pessary treatment and as much of the superfluous vagina as is necessary is resected. He avoids posterior recurrence by pushing the posterior vaginal wall up with the end of a long curved spatula behind the uterus and fastening it with silk to the uterus at the internal os and laterally to the sacro-uterine ligament—the necessity of posterior colporrhaphy is thus done away with. He finishes with a perineorrhaphy by the Lawson Tait method.

In conclusion the author describes a case of total prolapse of the vagina after extirpation of the uterus which he treated successfully by ventrofixation of the vagina. In cases where a pessary does not hold the prolapse in position, he applies two hard ring pessaries of different sizes which then stay in place.

FRANKENSTEIN

Novak J Effect of Removal of the Adrenal on the Genital Organs (Über den Einfluss der Nebennieren ausschaltung auf das Genitale). A. A. Gynäk. 1913. 31. 36.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

There is very little known of this subject clinically and Novak tried to extend the knowledge of it by experimentation. From his experiments on animals he concludes that (1) extirpation of the adrenals in rats causes a hypoplasia or atrophy of the genital which is more pronounced the younger the animal is at the time of the operation. (2) Partial extirpation of the adrenals does not cause any injury to the genital organs. (3) The genital atrophy is especially marked in animals in whom tumors of the adrenals have been produced artificially. (4) The genital atrophy is not due to or at any rate only slightly so to decreased nutrition but comes from the cutting off of the specific internal secretion of the adrenals. (5) Potency and capacity for conception are markedly decreased in animals from which the adrenals have been removed. (6) Pregnancy need not necessarily be interrupted by removal of the adrenals. The few clinical results known are in accord with those obtained by animal experimentation.

WASSERMAN

Cholekowsk A M One Thousand Laparotomies, Abdominal and Vaginal (1000 Laparotomien, abdominal und vaginal). Nach d. h. h. M. 11. Med. 18. 1913. 2. 11. 769.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author's work consists of 19 divisions which are summarized as follows:

1 In one hundred and twenty-eight cases of myoma, he found that in fibromyoma the adnexa were generally involved. They were benign anatomically even when they were not so clinically. He recommends supravaginal caesarean section in myoma in myoma and pregnancy he recommends operation if there are multiple myomata expectant treatment if there is only one.

2 In one hundred and ninety-two cases of cancer of the uterus 11 were operated on through the abdomen, and 181 through the vagina.

3 He found one hundred and twenty-six cases of cystoma. In such cases if the circumference of the abdomen is between 100 and 110 he recommends the opening of the abdomen above the umbilicus because of the possibility of adhesions between the umbilicus and the symphysis.

4 In twenty-two cases of malignant new growths of the ovary one case of malignant tumor of the ovary with pregnancy in which a supravaginal caesarean section was performed is especially noteworthy. There was recurrence in the operation scar two years after the operation.

5 In one hundred and sixty-four cases of inflammatory conditions of the adnexa gonorrhea was responsible in the majority of the cases. In regard to the relation between salpingitis and appendicitis appendicitis appears as a secondary affection in salpingitis only when the appendix is congenitally abnormally long. He denies the close connection of the lymphatic systems of the appendix and adnexa.

6 Of 1213 eight cases of extra uterine pregnancy 62 cases were unilateral, 2 bilateral in the tubes, 2 in the ovaries, 1 interstitial, 1 in a rudimentary accessory cornum, and 1 in a tube emptying into a rudimentary cornum. In almost 78 per cent of the cases the typical symptom of cramplike pains in the abdomen was present in 66 per cent there was hemorrhage from the vagina in 53 per cent there was retained menses. He agrees with Dourend that operation should be performed before five months expectant treatment after five months.

7 There were 90 cases of retroversion and flexion of the uterus. The treatment consisted of massage or operation either abdominal or vaginal. In 85 per cent of the cases there was pain and painful coitus.

8 From one hundred and eighteen cases of prolapse of the uterus he concludes that retroversion and flexion of the uterus in pregnant women leads later to prolapse.

9 In ninety-three cases of congenital anomalies of development of the uterus monthly pains led to removal of the adnexa.

10 There were two cases of traumatic injury of the abdomen through the vagina

11 Of caesarean section there were six cases The author is a strong advocate of this operation

12 There were four cases of echinococcus in the abdominal cavity in one case there was a severe combination of multiple echinococcus with pregnancy and appendicitis

13 In all there were eleven cases of tubercular peritonitis For this the author advises operation

14 In twenty two cases of post operative hernia there was one case of plastic operation on the intestine with good results

15 There were seven other hernias 2 of the linea alba 4 of the umbilicus and 1 inguinal hernia with prolapse and incarceration of the left ovary

16 Of pyometra there were seven cases with inflammatory adhesions in the cervical canal

17 There was one case of primary carcinoma and 6 malignant new growths of the uterus and intestines

18 The uterus was removed for metritis in eight cases The author believes that this operation should be performed oftener after the forty fifth year

19 Talma's operation for ascites was done in one case

The author describes the technique of abdominal incision, hemostasis and autoplasmic operation He calls attention to the fact that good control of hemorrhage is necessary for a favorable post operative course and lays special stress on peritonization He recommends irrigation with Lock's fluid and thorough closure of the scar as the best means of securing uninterrupted recovery and avoiding ileus

KAISER

Loliger E. Cases of Death after Gynecological Operations, from 1901-1911 (Kritik d. Todesfälle nach gynäkologische Eingriffe während d. Jahre 1901-1911) Ztschr. f. Geburtsh. u. Gynäk. 1913, 12, 177

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Grenzgeb.

Of the 63 deaths reported 62 or 97 per cent were due to infection embolus caused 38 or one quarter of all the deaths myodegeneration and acute dilatation of the heart was the cause of death in 28 cases 11 per cent Extreme Trendelenburg position is to be avoided If it is severe anaesthesia and nerve shock frequently cause death No death resulting purely from the anaesthetic was observed but there were five deaths after operation for myoma confirming the relation between myoma and heart degeneration Pneumonia and bronchopneumonia were observed 1 time 9 cases died of acute anemia among them cases of extra uterine pregnancy brought to the hospital too late Post-operative ileus was observed only once The 8 cases of cachexia were due with two exceptions to malignant tumor 1 of the causes of death were perforated peritonitis three times air embolus twice and complications in the urinary system twice

The means of avoiding these fatalities are discussed Spillmann's method of disinfecting linen and catgut is described and the disinfection of the hands with tetrachlorethyl soap solution and acetone alcohol Lugol's solution is recommended instead of tincture of iodine The author warns against washing the gloves with bichloride during the operation claiming that it does not disinfect the gloves and that there is danger of carrying bichloride into the wound He thinks irrigating with sterile salt solution is sufficient or a change of gloves if necessary Air borne infection may be avoided by having the operating room frequently aired and having it face the south so that sunshine is freely admitted Thorough ponging of the abdomen prevents its becoming infected with pus Hohne's method of applying oil is of no special value The period of anaesthesia should be shortened as much as possible and likewise the amount of the anaesthetic given should be limited to the bare necessity demanded Veronal scopalamine morphine (pantopon) should be given in preparation More extensive use of local anaesthesia is recommended and spinal anaesthesia is rejected The numerous thromboses and emboli may be avoided by early movements of the legs and respiratory exercises After laparotomy the patients may get up on the fifth day after operations for prolapse on the seventh to eighth day To decrease the coagulability of the blood fruit acid should be given in large quantities Careful examination of the lungs especially at the time of influenza epidemics will limit lung complications Ileus may be prevented by avoiding the use of antiseptics in the wound polished gloves damp abdominal sponges, the leaving of large stumps careful covering over with peritoneum being advised

LIESCH

Peham H.: Radium Treatment in Gynecology (Zur Radiumbehandlung in der Gynäkologie) Mse. kl. 15, 1, 264, 1913, 22, 1650

By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Grenzgeb.

The author in using radium in 12 gynecological cases found that tumors of the female genitalia that could be irradiated directly were favorably influenced as has long been known to be the case in skin carcinomata From experience thus far however radium cannot be called a specific cure for cancer therefore at present there is no justification in recommending radium in the place of operative treatment The author thinks it questionable to submit an early carcinoma to a long radium treatment for the chances are decreased by delaying the operation but he recommends the use of radium in inoperable cases and in recurrences

Rt.

Recasens S. Organotherapy in Gynecology (Organotherapie in der Gynäkologie) T. Intern. Cong. Med. Lond. 9, 3, Aug.

By Zeitschr. f. d. ges. Gynäk. Geburtsh. u. Grenzgeb.

The relations which exist between infantilism, dysmenorrhea and hypoplasia of the ovaries caused

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Hertz E. Extract of Hypophysis in Placenta
Prævia (Hypophysentrikte bei Placenta præia)
Z f allb f G gk 9 3 x 536
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

The author has used extracts of hypophysis in 7 cases of placenta prævia combined with all kinds of methods of treatment rupture of the membranes Braxton Hicks version and intra amniotic metureury and in 5 of the cases there was strengthening of the labor pains Once there was no effect and once pituit in caused a pastic contraction of the os and dela ed delivery He recommend extract of hypophysis (1) after rupture of the membran s in longitudinal position whether the placenta prævia total or partial (2) after metureury (1) after Braxton Hicks ersion (4) in the third tage combined with ergotin FALIND

Harris J A. Efficient Methods in the Treatment of Placenta Prævia
S By Bur Gynec & Obst

In re viewing the histories of 70 patients dying of placenta prævia in the New York Lying in Hospital during the past 20 yrs the author found that 30 f these cases were recei ed a condition of shock and almost moribund from acute exsanguination be use they had been allowed to bleed for hours and days under the care f their private physicians without any sort of treatment at all

In the series it was found that 30 of the cases di d of hock and hemorrhage 14 died of purpural infection of rupture of the ut rus and 1 of oedema of the lungs These 70 deaths represented a maternal mortality of 5 per cent in 466 cases of placenta prævia occurring in 8 000 confinements

This series of 466 cases includes the group of 250 reported by M Pherson in 1908 In the group of cases deli ered prior to 1908 the maternal mortality was recorded 11 8 per cent In the group of 216 cases deli red the succeed g 5 years the maternal mortality has fallen to eleven and one half per cent which the author believes is due to the foll wing reasons (1) Pat ts are now sent to hospitals earlier than heretofore and are the fore recei ed in better condition for treatment (2) In the hospital treatment for placenta prævia accouchement forcé is being abandoned a d recourse is being had more frequently to ly delivery by cesarian ect o

The utho refully considers the diagnosis of placenta præia and concludes by ad ising the following treatment If the patient is a primipara near term with living child and has the first hemorrhage with the cervix still lo g and loosed

abdominal cesarian section will probably give best results If cesarian section is contra indicated in these cases tampons of iodoform gauze should be used The oorthes bag should be used when the cervix is found dilated to two fingers and mother and child in good condition If the cervix is two or more fingers dilated and the child dead or non viable bipolar version after the manner of Braxton Hicks should be done In certain cases he advises the use of the metureutyrer Wm D Phillips

Keller R. Changes in the Follicles of the Ovary During Pregnancy (Über V nde u ge m I lkelapparat des Ovari während de Schwangerschaft) B t s Geb t k u G gk 1913 xix 3
By Zentralbl f d ges Gynäk u Geburtsh d Grenzgeb

In the author's morphological study of the changes in the follicles of the ovary during pregnancy twenty four cases were examined 6 of them in the second to fourth months of pregnancy in the fifth to the seventh and the rest in the latter months The author considers especially the question of whether ovulation ceases during pregnancy and he comes to the conclusion that all large follicles undergo atresia until the end of pregnancy while the primordial follicles probably bec u f the special resistance of their cells and most of the follicles in the earliest stages of development are preserved He concludes therefore that n ovulation occurs during this time

Atresia of the follicles and the development and degeneration of the corpus luteum are also discussed by the author He disti guishes two forms of atresia of the follicle a cystic one which involves mostly the larger follicles, and an bliterating one which affects the smaller ones His findings in regard to proliferation of thecal lutein cells confirm those of Seitz Wallart and others while his findings in regard to the origin and retrogression of the corpus luteum agree with those of Meyer and Cohn The corpus luteum consists of two kinds of cells the real lutein cells which originate from the epithelium of the granulosa and are therefore epithelial and the small epithel o d thecal lutein cell which are connective cells from the internal theca The retrogression of the corpus luteum is very irregular so that no laws can be laid down in regard to it SCH EX TLL

Eisenbach W Heart Disease and Pregnancy (Über H xz k ankung nd der Schwangerschaft) Beil Geburt k u G gk 9 3 xix, 39
By Zentralbl f d ges Gynäk G b tsh s d Grenzgeb

Among 3 037 deliveries the author found 45 cases completed with heart disease There is generally

no serious danger if the heart lesions are compensated. Difficulty is to be feared only in especially severe forms. The kind of heart lesion has no especial effect; there is even no particularly unfavorable effect from mitral stenosis.

If failure of compensation begins during pregnancy and internal treatment has no effect, abortion should be performed as soon as possible. In the second half of pregnancy a quick and conservative method is vaginal incision of the uterus under spinal anesthesia. There is no tendency to spontaneous abortion in heart disease and the danger during delivery is generally slight.

Pure valvular lesions do not offer any danger if the heart muscle is in good condition but if the muscle is diseased the sudden variation in pressure caused by the pains may lead to insufficiency in the very beginning of the second stage even if there have been no symptoms of lack of compensation before. Generally a shortening of the delivery by operation is not necessary. Operation should be limited to those cases in which there is a threatening insufficiency during labor due to severe disease of the muscle. If the course of earlier pregnancies has shown that the additional burden on the heart entailed by pregnancy and labor threatens the woman's life, operative termination is indicated.

There is no increased danger of at any heart disease. Puerperal infection even of mild degree may cause grave danger if the heart is diseased. There is serious danger of endocarditis and the patient should not be allowed to get up too soon.

Nursing is not contra-indicated in heart disease except in severe cases of failure of compensation. The children of mothers with heart disease are generally normally developed. Age is of great significance in the prognosis; the older the woman the more danger. This is due to the fact that the condition of the heart muscle grows progressively worse with advancing years, and also to the unfavorable effect of repeated pregnancies. R. v. E.

Wiese F.: Carcinoma of the Uterus and Pregnancy (Uteruscarcinom und Schwangerschaft). *Langenbecks Arch. u. Klin. Chir.* 1911, 193.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author describes three cases and discusses in detail the co-existence of carcinoma of the uterus and pregnancy and cites the following cases. The first case was a 35-year-old III part who had a cauliflower carcinoma as large as an apple posteriorly and to the right of the cervix in the ninth to the tenth month. There had been hemorrhage for two weeks. Caesarean section was done at abdominal total extirpation. Death resulted a year later from recurrence. The child lived.

The second case was a 35-year-old IV para with hard nodules in the cervix in the seventh to eighth month of pregnancy. A caesarean section was performed also abdominal total extirpation and left-sided nephrectomy. In account of cutting the ureter in removing the glands. Recovery followed.

The third case was a 36-year-old IX para, who had a cauliflower carcinoma as large as a walnut on the posterior lip of the os in the third to fourth month of pregnancy. Recovery followed abdominal total extirpation.

The author reckons the frequency of uterine carcinoma during pregnancy as 0.07 per cent from statistics of 113,750 births. As an explanation of the rapid development of carcinoma during pregnancy he points out the better nutritive conditions for the new growths that are brought about by pregnancy, and the greater weakness of the body on account of the production of vitally toxic bodies both against the pregnancy and against the cancer. For the diagnosis of carcinoma of the cervix which is often difficult he recommends testing the cervical tissue as to its friability by means of a fine curette.

In treating inoperable cancer the child's life must be taken into account and the author believes that this is furthered more by general treatment to improve the mother's strength than by local symptomatic treatment of the cancer. In operable cancer during the first two thirds of pregnancy the Wertheim lumbar operation should be performed at once without regard to the child in the last third and during labor the classical caesarean section is to be performed. In cases where operability is in doubt he recommends exploratory laparotomy. V. v. E.

Röhrbein W.: Treatment of Pyelitis during Pregnancy by Irrigating the Pelvis of the Kidney (Zur Behandlung der Pyelitis gravidarum mittels Nierenbeckenspülungen). *Ztschr. f. d. Chir.* 1911, 193.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

There is no unanimity of opinion in regard to the treatment of pyelonephritis in pregnant women. In mild cases rest in bed, copious drinking of water and local heat is sufficient. In severe cases irrigation of the kidney pelvis after catheterization of the ureters is an excellent treatment.

Three cases have recently been treated in this way and in two of them cure was attained to such a degree that bacteria could no longer be demonstrated. In all the cases the disease was unilateral twice it was a colon infection once a mixed infection of colon and staphylococci and there were 20, 40 and 100 ccm turbid urine infected in the pelvis. The injections were made into both kidneys. In the first introduction of the ureters contrary to the practice of the authors who avoid injecting the healthy side 100 ccm of 2 per cent protargol solution was given. The bladder was irrigated at the same time and afterward. V. v. E.

Mann Glycosuria of Pregnancy a Form of Renal Diabetes (Die Schwangerschaftsdiabetes). *Ztschr. f. d. Chir.* 1911, 193.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The author examined the blood of the women at the gynecological clinic at Breslau who showed

glycosuria either spontaneously or on the administration of sugars. From his results it seems that almost all pregnant women have a latent renal diabetes. The severest degree of this disturbance is the spontaneous diabetes of pregnancy. In some cases it appears spontaneously, in others only after an excess of carbohydrates or grape sugar has been given. These differences are explained by the greater or less functional injury to the kidney. All kidneys during pregnancy are sensitive to the sugar content of the blood, whether it lies within normal bounds or exceeds them a little. If the sugar content of the blood varies a little bit up or down, the kidneys react with a greater or less output of sugar.

BRENO WOLFF

Novak J. Forges O. and Strisower R. A Peculiar Form of Glycosuria in Pregnancy and Its Relation to True Diabetes. I. Glycosuria of Pregnancy (Über eine besondere Form von Glykosurie in der Gravidität und ihre Beziehungen zum echten Diabetes). I. Schwangerschafts-glykosie. Ztsch. f. kl. Med. 1913, LXXIV, 4, 3. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

From their experiments the authors come to the conclusion that glycosuria during pregnancy is due as a rule to hypersensitiveness of the kidneys to sugar in the blood, but that in most cases there is no disturbance in carbohydrate metabolism. Neither the spontaneous nor the alimentary sugar output during pregnancy can be taken as an indication of the existence of a liver peculiar to pregnancy with demonstrable anatomical and functional changes. They also report three cases of pregnancy complicated with true diabetes. The harmful effect of diabetes on the fetus was shown in these cases as well as the injurious effect of the pregnancy on the course of the diabetes. There was hydramnios in one case which is undoubtedly due to the diabetes. The most important difference between a true diabetes and an intense glycosuria of pregnancy is in the sugar content of the blood.

BRENO WOLFF

Jahnel F. Psychic Disturbances in Pregnancy (Ein Beitrag zur Kenntnis der geistigen Störungen bei der Eklampsie). Arch. f. Psychiatrie u. Nervenk. 1913, LXXIV, 4, 3. By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Psychic disturbances are not unusual in eclampsia occurring in 6 per cent of the cases. Jahnel reports two cases in detail as follows:

In the first case a woman who had always been well had several attacks of eclampsia after her first delivery which were followed by a stuporous condition. After a short period of clearness he had an attack of hallucinatory delirium lasting two days. She had hallucinations of seeing animal and small moving objects there was a great difficulty in comprehension. She was given an injection of hyosine and after she awakened from the deep her mind was clear, but there was amnesia extending back to before the delivery.

In the second case a 25 year old primipara had severe attacks at the beginning of eclampsia which stopped after delivery. Three days later a state of anxious excitement developed with sensory delusions which gradually increased in intensity and at its maximum there was anxiety, confusion and motor restlessness. The excitement gradually decreased and disappeared entirely after twelve days. There were defects in memory in this case also but not so pronounced as in the first one.

Eclamptic delirium shows many points of resemblance to alcoholic delirium but is distinguished from it by a lack of suggestibility for hallucinations and a real occupation delirium. Retrograde amnesia is characteristic of the psychoses of eclampsia and is regarded by most authors as the result of a general depression of all the psychic functions caused by the pathological processes, oedema of the brain, hydrocephalus, brain hemorrhage. The eclamptic psychoses generally appear in three forms: a short stuporous condition without excitement or confusion or in one of the forms described above. Frequently but not always there is fever. The eclamptic psychoses must be differentiated from epileptic, alcoholic and other forms of puerperal psychoses. It may be distinguished from epileptic psychoses by the lack of aggressiveness from alcoholic psychoses by the history and the lack of suggestibility for hallucinations. It can be distinguished from the ordinary puerperal psychoses by the history of previous attacks of eclampsia and kidney disease. The treatment is the same as that for eclampsia.

KÜHLER

Curtis A. H. Vomiting of Pregnancy Treated by Injection of Blood of Normal Pregnant Women. J. Am. M. Ass. 1914, LXII, 696. By Surg. Gynec. & Obst.

The author reports one case thus treated. A 36 years old woman had had a puerperal infection after the first baby, the second pregnancy had been interrupted because of a placenta previa, the third was normal in all respects and in none had there been any evidences of renal disturbance or intoxication. In about the fourth month of her fourth pregnancy she developed general malaise with a rise of one to three degrees in temperature. With the onset of fever she had tenderness, dragging and aching pain in the right lower quadrant which became constant, nausea and vomiting developed which finally became intractable. The patient was not neurotic and no abnormalities were found.

The treatment consisted of injecting into the muscular tissue of the back 15 ccm of blood taken from a pregnant woman who gave a negative Wassermann test. The symptoms improved in eighteen hours and although the emesis continued a large proportion of the food was retained. Five days later 10 ccm of defibrinated blood taken from another pregnant woman who also gave a negative Wassermann test was injected whereupon complete cessation of vomiting occurred in eighteen hours.

Two more injections were given within the next two days; thereafter all treatment was discontinued. Pregnancy continued until it was followed by a normal labor and a healthy child. **TOWARD L. COX**

Nicholson W. R.: The Extraperitoneal Cesarean Section; Its Place in Obstetrics. *J. S. G. 11, 1912, 1912, 2, 10, 211. By Surg. J. C. & D. M.*

The operation is really a development of the laparotomy extraperitoneal incisions and the development of present-day asepsis render its performance justifiable. Many foreign operators advocate this operation but in this country at the time of writing but two men had used the method. In the hospital of the larger number of operators the procedure is really a transperitoneal section, the incision of the peritoneum and duplication being closed again before the uterus is incised.

The Continental operators have varied in producing modifications in technique which are to a great extent unimportant. The ideal way similar to a single incision with an exaggerated crescentic curve is essential in order to expedite the delivery of the child through the uterine incision. It is found that the results are found to work as well if not better.

The most satisfactory technique in the author's experience is as follows: (1) Longitudinal incision from the umbilicus upward to the third finger below the navel through the skin, fascia and muscle. (2) Longitudinal incision through both layers of the peritoneum and duplication of the incision. (3) The bladder to the point at which the lateral ligament becomes adherent to the uterus. (4) The uterus is opened with the finger at edge through the opening of the uterus. (5) The fetal head is delivered. (6) The uterus is closed with the finger. (7) The abdominal wall is closed with the finger. (8) The perineum is closed.

The operation is difficult and difficult to do. The author is of the opinion that a few years more will be necessary to perfect the operation and to make it a safe and reliable method.

Vorles O.: Pathogenesis of Eclampsia. *J. S. G. 11, 1912, 1912, 2, 10, 211. By Zentrall. d. G. & D. M.*

The pathogenesis of eclampsia is a problem which has been the subject of much discussion. The author is of the opinion that the pathogenesis of eclampsia is a problem which has been the subject of much discussion. The author is of the opinion that the pathogenesis of eclampsia is a problem which has been the subject of much discussion.

Leighton A. P.: The Cause and Cure of Eclampsia. *J. S. G. 11, 1912, 1912, 2, 10, 211. By Zentrall. d. G. & D. M.*

The author is of the opinion that the cause of eclampsia is a problem which has been the subject of much discussion. The author is of the opinion that the cause of eclampsia is a problem which has been the subject of much discussion.

of to cause giving rise to heart failure. He reports 4 cases in which the ingestion of food even milk and whey caused a return of convulsions and eclamptic symptoms. His treatment is convulsive and he describes briefly the Dublin and Stroganoff methods as follows:

The Dublin method of treatment includes the following procedure:

1. Delivery when possible only. Accouchement forcé is not allowed in any form.

2. Metabolism is limited and further metabolism avoided by starvation, morphine and gastric lavage.

3. Excretion is aided by purging and irrigation of the bowels. Sweating is never used. The lungs are stimulated. The first 14 are infused with sodium bicarbonate solution.

4. Special signs such as respiratory and cardiac weakness are treated. Morphine is used to control convulsions.

The Stroganoff treatment is almost identical with the Dublin except that large doses of chloral are given with the morphine to control convulsions, by way of the rectum. The emetition, irrigation, lavage, etc. are done with light chloroform anesthesia.

Austin G. H.: Eclampsia with Total Abstinence of Albumin. *Br. Med. J. 1912, 1912, 2, 10, 211. By Zentrall. d. G. & D. M.*

The case is a report of a woman at 35 years of age who was perfectly normal throughout pregnancy in every way. Albumin was present in the urine at any time. The blood pressure was not taken but the author noted that the patient seemed to take a good deal of food during the latter part of pregnancy. The fat content of the urine was not determined and had none of the character of ketonuria.

The patient was normal and all went well until delivery was nearly complete when she had an eclamptic seizure. The delivery of a living fetus. The patient had no more attacks which were typical of eclampsia (in section).

The greatest increase in weight that Austin had noted soon appeared and he discovered it to be a general edema of the edema. He suggests that this has been due to a chloral retention.

Szabo D. Artur: Abortus in Eclampsia. *J. S. G. 11, 1912, 1912, 2, 10, 211. By Zentrall. d. G. & D. M.*

The author is of the opinion that the cause of eclampsia is a problem which has been the subject of much discussion. The author is of the opinion that the cause of eclampsia is a problem which has been the subject of much discussion.

(3) Hydramnios (4) Retroflexion of the uterus
(5) Heart diseases (6) Kidney diseases (7)
Tuberculosis (8) Pregnancy often exerts a patho-
logical effect on the nervous system and produces
psychic disturbances. In one case of manic de-
pressive insanity the pregnancy was interrupted in
the third month.

In general the author believes that if pregnancy
is the cause of any disease that cannot be cured in
any other way abortion should be performed. If
every conception causes danger to life or permanent
injury to the body further pregnancies should be
prevented. The consent of the patient must be
given for any course of action. BOGDANOVICH

Meyer E. Induction of Abortion in Psychic
Disturbances (Zu Frage des künstlich n Abortus
bei psychischen Störungen) *W. nat. ch. f. Ge-
b. u. Gyn. 93 3 xx iii 34*
By Zentralbl. f. d. ges. Gynak. u. Gebu. is. s. d. Grenzgeb.

Before taking up the discussion the author goes
into the question of whether abortion is indicated
in intermittent dementia præcox which is often
seen coincidentally with pregnancy or the puerperium.
It must be taken into consideration that a new access
does not necessarily accompany pregnancy that it
may take place without pregnancy and that im-
provement is by no means assured by the perform-
ance of an abortion nevertheless the author holds
that abortion is justified in such cases. In general
he holds that abortion on is justified even if the psychic
disturbances are not of such a degree as to absolutely
demand it if an increased injury to the nervous
system is to be feared from repeated deliveries.
Abortion not indicated in alcoholic pyramnia. / MEYER

LABOR AND ITS COMPLICATIONS

Freeland J R. The Relationship Existing Between
the Mechanism and Management of the Third
Stage of Labor *Am. J. Obst. & Gyn. 194 1 iv
302* By S. rg. Gynec. & Obst.

The author's report based upon careful observa-
tions made upon 600 cases treated at the Rotunda
Hospital Dublin. At this hospital as soon as de-
livery of the child occurs the hand is sunken into
the abdomen upon the surface of the uterus so that
the fundus fits into the hollow of the palm and
the uterus is controlled. The hand is simply held
in this position to prevent ascension of the uterus
due to its filling up with blood.

No massage of the uterus is permitted as its use
tends to add complications. The place is in every
chance to separate naturally and unless bleed-
ing occurs no effort is made to express the placenta
until evidence is present that the placenta has
loosened and lies in the lower uterine segment or
agitated. Even after one and a half to two hours
the placenta may separate normally. Hasty attempts
to accelerate this loosening are declined. In a series
of 2600 cases so managed the placenta separated
by Schultze's mechanism in 8 per cent of the

cases by Duncan's mechanism in 17.5 per cent of the
cases.

In the cases separating by Schultze's mechanism
the membranes were incomplete in only 5 per cent
of the cases while they were incomplete in 15 per
cent of the cases after Duncan's mechanism. Ante-
partum hemorrhage is followed by escape of the
placenta by Duncan's method. The cases of post-
partum hemorrhage and retention of the placenta
he believes are much more common after Duncan's
mechanism. Because of its incidence and its asso-
ciation with abnormal cases Freeland thinks that
Duncan's mechanism is to be considered the mech-
anism of abnormal cases. A. SPROUT HEAVY

Dührssen A. Delivery in Contracted Pelvis (Ce-
sareum bei engem Becken) *Med. Abh. Berl. 913
ix 735*

By Zentralbl. f. d. ges. Gynak. u. Geburtsh. s. d. Grenzgeb.

From the present day obstetrical standpoint
artificial premature delivery is not justified nor is
the perforation of a living child or one that has
died under expectant treatment. In certain cases
that are undoubtedly aseptic the classical cesarean
section is advisable. It is best to perform it before
the beginning of labor pains in cases where the
cervix will admit one finger while in cases that
are infected or even suspected of being infected the
extraperitoneal route should be chosen.

After a chronological enumeration of the opera-
tions that try to avoid the peritoneum the author
recommends Solms' method of extraperitoneal
cesarean section because it is possible with it to
obtain an actual extraperitoneal delivery. It is
distinguished from its predecessors by the fact that
two incisions are made: one an inguinal incision from
without and then an incision through the anterior
abdominal wall at the cervix in the median line from
below. The latter incision if necessary can be
extended to the body of the uterus. By bringing
together the inner and outer incisions a short canal
is produced. The uterine vessels and the ureters
are not injured.

A further advantage of this method is that be-
cause of the position of the incisions the distention
of the lower uterine segment does not have to be
waited for which is very important in quick
delivery. Moreover by the use of the metreurynter
incision can be easily performed in a private
house. A accidental opening of the bladder and
peritoneum can be practically excluded if the
directions given for making the incisions are carried
out exactly. Vaginal drainage with iodoform gauze
after delivery is important. BORELL

Each P. Effect of Contracted Pelvis on Delivery
in Normal Head Presentations (Über de
Einfluss des platten Beckens auf die Geburt
normaler Schädel lag.) *Z. f. d. Gebu. is. u.
Gynak. 93 3 ix 9*

By Zentralbl. f. d. ges. Gynak. u. Geburtsh. s. d. Grenzgeb.

From the literature and the Warburg Clinic the
author has collected in all reports of 467 normal mal-

the fetus on its axis in high positions. In transverse positions it is only justified in connection with version if version cannot be accomplished after rupture of the membranes it is advisable to insert a metreu rynter to avoid a further discharge of fluid. In contracted pelvis rupture of the membranes is contra indicated as long as the head is movable above the inlet and in stricture of the cervix artificial puncture of the membranes is absolutely contra indicated. This term indicates a local ring shaped narrowing of the cervix not so much a pathological tissue change as a physiological effect of the labor pains under abnormal anatomical conditions with defective or irregular development of the cervix. He discusses Schroder's and Bandl's theories of the lower uterine segment and its anomalies and concludes that in all cases where there is reason to suspect an anomaly of the lower uterine segment the membranes should be pared.

If the membranes rupture of themselves prematurely care should be taken to avoid an excessive discharge of fluid. If it is seen that the stricture is acting as a normal contraction ring that is that it hinders the discharge of fluid during the pains expectant treatment is indicated but if this is not the case active treatment is demanded. In cases where there is no projection of the bag of waters in front of the presenting part puncture of the membranes may have an excellent effect on the dilatation of the soft parts and thus hasten delivery. While the membrane are intact the fetus is seldom injured but after rupture of the membrane it is stretched with dangers which how no signs in the mother's condition so it is necessary to watch the foetal heart very carefully. FÄRRE

F Wit H H Unusually Large Tumor of Child
Complicating Delivery. J. J. M. G.
1904. 4. 4. By S. R. Gynec & Obst.

The author reports a case in which a cystic fibroma weighed two and three fourths pound and was attached to the sacrum of the child. In the course of growth it had lifted the skin off the sacrum behind the buttock laterally and the perineum below so that the anus and vulva pointed directly forward and the thighs were spread-eagled at right angles to the body. The tumor was removed the day after delivery and the child made a good recovery.

C. H. D.

Solowij A. An Unusual Cause of Spontaneous Rupture of the Uterus During Delivery (Über seltene Ursachen der spontanen Zerreissung der Gebärmutter während der Entbindung). Z. f. Geburtsh. u. Gynäk. 93. VII. 63.

By Zentralblatt für Geburtsh. u. Gynäk. d. Grenzgeb.

A case of an adherent retroversion of the uterus from gonorrhoeal alginitis could not be entirely overcome by massage or pessaries. During the first pregnancy a distention of the posterior wall was discovered in the second month. It was a breech presentation but delivery was accomplished readily

by bringing down a foot. In the second delivery there was no distention but there was a spontaneous rupture of the uterus that was only diagnosed by the condition of the pulse 4 minutes after the spontaneous delivery of the child. Laparotomy was immediately performed and an oblique tear of the anterior wall found with adhesions of the posterior wall to the colon and mesocolon. These adhesions were loosened with great difficulty. Supravaginal amputation was followed by death a half hour after the operation. The author believes that the adhesions of the posterior wall caused the excessive stretching of the anterior wall so that it ruptured although the delivery lasted only two hours. The author believes the pelvic presentation of the fetus in both deliveries was due to the fact that there was not room in the lower uterine segment for the head because of the adhesions. The fatal outcome of the case shows that adhesions of the uterus from gonorrhoea should not be regarded too lightly.

BLECK

Nebesky O. Rupture of the Cord During Labor (Beitrag zur Kenntnis der Zerreissung intra partum). Arch. f. Gynäk. 93. C. 60.

By Zentralblatt für Geburtsh. u. Gynäk. d. Grenzgeb.

The author reports 18 of his own cases of rupture of the cord during labor in 13 of which microscopic examination of the cord was made. He made weight tests of 100 cords at the eighth month 8 at the ninth month and 89 of full term children. From these data and an exhaustive study of the literature he comes to the following conclusions regarding the etiology and mechanics of rupture of the cord during labor.

If there is nothing to prevent its falling freely the weight of the child alone is generally sufficient to rupture the cord completely. In premature deliveries the strength of the cord is somewhat less absolute but not in proportion to the weight of the child. The fetal third of the cord is especially disposed to rupture the median and placental thirds less so and the placental insertion least. If the child is delivered suddenly and falls there is little danger of injury to the skull and not very great danger of hemorrhage providing respiration begins at once. The danger is very great if there is violent tension and individual vessels are torn or if from the violence of the pains the cord is ruptured before delivery.

The differentiation between a spontaneously and artificially separated cord is often impossible or at any rate difficult and uncertain. The force of the uterine contractions if abnormally strong or if the strength of the cord is reduced may rupture it. This generally occurs when the cord is absolutely or relatively shortened. The greater or less amount of the jelly and the greater or less number of turns are comparatively unimportant. Cords with dilated or tortuous vessels rupture somewhat more easily than those without these anomalies but the rupture is seldom at the site of the abnormality.

pregnant cows. A detailed description is given of the method of obtaining the serum, the preparation of the coagulated placenta and the careful testing of the dialyzing thimbles before using them as to their penetrability by albumin and the products of albumin decomposition. The reaction was always tested with at least 2 ccm serum and in the 15 pregnant animals it was negative once in two cases the reaction was positive though the cows had already delivered their calves. It is well known that in women the reaction is positive for the first two weeks after labor.

The late reaction was noteworthy in one case four weeks after calving. In the 11 non pregnant animals the reaction was doubtful in two cases and positive in two. The ninhydrin test is shown to be more reliable than the biuret test. Many positive reactions are more frequent than mistakenly negative ones. This is probably caused by hemolysis of the serum. In working with small amounts of serum this hemolysis cannot be determined with the present method of testing the serum.

MORALLER

Scholz H. Rosenthal's Diagnosis of Pregnancy
(Die Schwangerschaftsdiagnose nach Rosenthal)
Berl. klin. Wochschr. 9, 3, 1914, 358
By Zentralbl. f. d. ges. Gynäk. Geburtsh. u. Grenzgeb.

The author calls attention to the fact that Rosenthal's method of diagnosing pregnancy deserves attention as well as Abderhalden's. It is a method for determining the strength of the proteolytic inhibitory power of the serum. Two ccm of a casein solution of known strength is placed in each of a series of test tubes. Then 0.5 ccm of a serum diluted with salt solution to a certain degree is added and finally increasing doses of 0.2 ccm trypsin solution which has also been prepared according to Lettstedt's directions which must be read in the original. In all the months of pregnancy Rosenthal has found an increase in the inhibitory power of the serum as compared with that of normal serum.

VOTR

Warfield I. M. Presence of Dialyzable Products
Reacting to Abderhalden's Ninhydrin in the
Urine of Pregnant Women. J. Am. M. A.
9, 4, 1914, 456. By Surg. Gynec. & Obst.

It occurred to the author that if there was a specific ferment in the blood serum of pregnant women it should also be present in the blood waste. These substances have to leave the body by some route and the most likely one is the urine. These products should be the peptones and amino acids and they should dialyze out and should then be found in the dialysate. Warfield found such to be the case. At first urine and pieces of boiled placenta were placed in a dialyzer and urine alone in a second. A difference was noted in the color reaction obtained with ninhydrin—boiling the

urine made no difference. Urine containing more than a trace of albumin boiled and filtered clear and placed in a dialyzer showed in the reaction of the dialysate to ninhydrin no difference from the untreated urine.

The exact technique followed is not given. As seventeen cases only were tested the author does not claim this to be a final report but only preliminary.

EDWARD L. CORNELL

Haenisch. The Röntgen Diagnosis of Separation of the Upper Epiphysis of the Humerus in Birth Paralysis (Die Röntgendiagnose der Epiphysenlösung am oberen Humerusende bei Geburt Lahmungen). Verh. d. d. deutsch. Röntg.-Ges. 1913, 11, 86.
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

The author describes five cases, some of which were sent to him with the diagnosis of birth paralysis. The typical roentgen finding in separation of the epiphysis of the upper end of the humerus consists in the appearance of the first center of ossification to the side of instead of in a line with the upper end of the shaft of the humerus which resembles the ridge of a roof. Of the five children three were operated on with complete recovery.

SCHMIDT

Ballantyne J. W. The Nature of Pregnancy and Its Practical Bearings. B. J. J. 1914, 1, 349.
By Surg. Gynec. & Obst.

The author considers this subject from the standpoint of a general survey of the whole field of pregnancy. He takes up first the theories of pregnancy of which he cites three viz. (1) Pregnancy regarded as parasitism, (2) the pathological theory of pregnancy and lastly pregnancy as harmonious symbiosis. This latter theory as advanced and elaborated by Professor Barthelemy the author believes in and thinks it the proper viewpoint to be taken.

Ballantyne believes that the maternal response in pregnancy such as mammary changes etc. are due to some substance secreted by the unborn infant. Likewise he believes the ductless glands are stimulated to unusual effort. He compares the action of this kind as similar to the hormone action in digestion and considers pregnancy a physiology at high pressure.

In his opinion the etiology of the maladies of pregnancy cannot be solved until the physiology of normal pregnancy is thoroughly understood.

Pregnancy is not at present considered as seriously as it should be by the medical profession. More care should be taken in the early months to divert the probable complications that may arise later and for this purpose pre-maternity wards should be established. Ante-natal pathology should be worked upon in every hospital with a maternity ward and a pathologist should be present to handle the work.

F. C. E. CAV

Van Tussenbroek, C. The Influence of Pregnancy and Labor on the Mortality from Tuberculosis among Women (Der Einfluss der Schwangerschaft und des Wochenbettes auf die Sterblichkeit der weiblichen Bevölkerung an Tuberkulose). *Arch. f. Gynäk.* 1933 3: 84.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

The author found the mortality from tuberculosis among women in Amsterdam increased in the first half year after delivery and decreased in the second half year so that the increase and decrease nullify one another. Hence the conclusion that the mortality from tuberculosis in the year following delivery is the same as the general mortality from tuberculosis among sexually mature women. In the mortality curves for women in Amsterdam and the Netherlands there was no sharp fall after the end of the period of sexual activity as there would be if there was an increase in the mortality from pregnancy and labor. In Amsterdam there was a slightly increased relative mortality for married women which must be ascribed to other causes than reproduction.

The prevailing opinion that the mortality from tuberculosis is considerably increased by pregnancy and labor is not confirmed by the author's investigation and her figures do not show any justification for the performance of abortion for tuberculosis. On this point the author agrees with Weinberg.

Re: 2

Péteri, T. Histology of the Amnion and Origin of the Fibrillary Structures (Beiträge zur Histologie des Amnion und zur Entstehung der fibrillären Strukturen). *Int. A.* 1913 xiv 161.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

The author reports the examination of the amnion from the embryos of chickens 3 to 8 days old with the various methods of staining. There is a detailed microscopical description of the origin of the fibrillary network inside the amniotic epithelium from vacuolization of the cell body. The author considers this a constant and characteristic part of the amnion. A limiting membrane resembling haptogen membrane appears around these vacuoles and is transformed to fibrils simultaneously with a great increase in the size of the vacuoles. The author thinks the origin of this cell structure may be comprehended much more simply and easily by the aid of physical-chemical conceptions than by purely morphological and often metamicroscopical hypotheses.

MORALISZ

Brande, J. The Patency of the Cervical Canal and the Os at the End of Pregnancy (Die Durchgängigkeit der Cervix und des Os bei den mündenden Frauen der Schwangerschaft). *Z. f. Gynäk.* 1933 3: 700.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

Brande believed that if the cervical canal was found patent at the end of pregnancy it indicated that delivery was imminent and to demonstrate this

he examined 186 primiparae in the ninth and tenth months of pregnancy. In 46 women the cervical canal was found open. Among these the cervical canal was open in 20 cases for 5 to 15 days in 9, 26 to 25 days. Among 263 primiparae in the eighth to ninth month the cervical canal was found open in 28 cases. Among these it had been open 5 to 15 days in 10, 16 to 25 days in 5, 26 to 35 days in 5 and 46 to 64 days in 3. Among 134 primiparae in the seventh to eighth months the cervical canal was open in 4 cases and in all these it had been open 27 to 65 days. The examinations showed conclusively that the patency of the cervical canal and os does not prove that delivery is about to take place even in primiparae.

WINTER

Fuld, F. The Capacity of the Mammalian Thymus for Regeneration after Pregnancy (Die Regeneration fähigkeit des Thymus der Säugetiere nach der Schwangerschaft). *Zentralbl. f. d. ges. Gynäk.* 1913 xiv 908.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

From his experiments the author believes that during pregnancy an atrophy takes place in the thymus which is especially marked during the latter part of pregnancy. In this stage elements can be demonstrated in the remaining thymus tissue probably of connective tissue origin with large nuclei which contain cholesterol crystals and lipoids. He proposes to give them the name infestation cells, and thinks they are probably connected with the cholesterol metabolism of the body. After pregnancy an active proliferative process begins in the thymus which may lead to a comparatively short time to complete restoration of the organ. Pregnancy is the cause of a process of involution in the thymus which may be restored again after the pregnancy is over.

KUAS

Klotz, M. The Effect of Birth Trauma on Mental and Bodily Development (Die atypische Bedeutung des Geburtsstraumas für die geistige und körperliche Entwicklung). *Arch. f. d. ges. Gynäk.* 1913 xiv 161.

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. u. Grenzgeb.

There are very different opinions as to the relation between abnormal delivery and the future development of the infant. While the greater number of neurologists and pediatricians agree with Little that an abnormal delivery may do irreparable harm to the brain, others especially Haines are of the opposite opinion. The latter followed the history of a series of children born normally delivered artificially and delivered in a condition of a puerperal and found the same percentage of abnormal children in each. His work is defective however in that he bases his judgment on too small a number of cases, and compares an equal number of normal and abnormally delivered children while the latter are so much fewer in number. The question does not seem to be decided so far it is made more difficult by the fact that

even in cerebral paralysis juvenile weak mindedness etc heredity plays such an important part that it is difficult to define its boundaries

From the author's investigations which relate to authentic material though the cases were small in number it would seem that birth trauma has a certain importance In 76 per cent of idiotic children he found no other cause than birth trauma

SAIGER

Bond J The Weight of the New Born Not Dependent on the Mother's State of Nutrition (Das Gewicht des Neugeborenen und die Ernährung der Mutter) *B. M. W. ch. 2. k. 9. 3. 22. 1. 26*
By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

Prochownik's treatment by the control of diet has been in use for 24 years but results have been shown only in scattered cases and they have not been scientifically stated It has been shown on the contrary that the foetus is independent of the state of nutrition of the mother and that it grows some what in the way of a malignant tumor The placenta contains the same amount of fat for absorption in the severest hyperemesis or tuberculosis as when the mother is in good condition

Animal experiments have shown that in animals poisoned with phlorhizin where there is the most extreme emaciation the placenta contains the normal amount of fat Well nourished women may bear small weak children and slender poorly nourished women sometimes bear large strong children In nursing it is frequently observed that strongly built women with large breasts have less nourishment than slender ones

The factors that influence the size of the child are (1) Inheritance (2) the age of the mother at impregnation as older women whose ova are also older generally bear heavier children (3) special conditions during foetal life such as disease or infection of the mother or foetus Therefore too much dependence should not be placed on diet treatment

EXNER

Yippo A Icterus Neonatorum and the Secretion of Bil. Pigment in the Foetus and New Born (Icterus neonatorum und Galle als best. Exkretion beim Foetus und Neugeborenen) *M. k. med. W. ch. k. 9. 13. k. 6*

By Zentralbl. f. d. ges. Gynäk. u. Geburtsh. d. Grenzgeb.

The examination was carried out by the author's own spectrophotometric method In 11 children the excretion of bil. pigment in the urine and stools was almost the same regardless of whether they showed icterus or not even in prematurely delivered children no more was excreted than was to be expected from their weights In 58 children the bil. pigment content of the blood was determined in 11 cases repeatedly and in 4 cases in the mothers also

In the blood of the foetus and in that from the umbilical cord there was found to fifteen times as much as in the mother's blood Children with

high bile pigment content all had icterus after delivery the content rose still higher and when a certain limit was passed icterus appeared There were some variations in individual cases but the rule held good as a general thing The bile pigment content was especially large in prematurely delivered children

The chief cause of the trouble is to be found in the conditions of foetal life The function of the fetal liver is not sufficiently developed so a considerable amount of coloring matter is allowed to pass over into the blood As the grade of icterus depends on how long this condition persists this explains why icterus is not influenced by infections, and that even in syphilis it disappears at the usual time and that it is entirely independent in septic diseases it is purely of hepatic origin

KERMALER

Brilliantyne J W Ante-Natal Hygiene *Ped. at. 9. 4. vi. 3*
By S. 18 Gynec. & Obst.

The author's views as to how advances in antenatal hygiene may be accomplished are in brief as follows (1) Marriages should be contracted only after a clean bill of health is given on each side (2) A diagnosis of syphilis in pregnant women should be made and the disease properly treated at once (3) Stillbirths should be registered (4) The sale of abortifacient drugs should be stopped (5) The medical profession should take a more active part in the supervision of pregnancies (6) Maternity hospitals should be furnished with pre-maternity or pregnancy wards for patients suffering from the diseases of pregnancy (7) Help financial and otherwise should be provided to poor pregnant women (8) Lastly the author speaks of the hygiene of the honeymoon and says that this may be better advanced by the education of those to be married

EUGENE CARY

Huntington J L Ante-Natal Hygiene Relation of the Hospital to the Hygiene of Pregnancy *P. d. i. 10. 19. 4. vi. 9*
By Surg. Gynec. & Obst.

The author tells of the work the Boston Lying In Hospital has done in taking care of about 2000 patients a year

The quarters of this clinic are located in a tenement house opposite the Lying In Hospital and are rented for \$300 a year The patients to be confined in their homes come to this clinic at regular intervals until labor sets in Patients living at a distance are visited by nurses In the clinic the history both social and clinical is taken and the urine is examined and blood pressure taken Palpation of the abdomen and measurements are made after which the name of the patient is given to a nurse for house calls and the patient is instructed in the hygiene of pregnancy If untoward conditions arise they are sent to the hospital

It is the author's belief that an ideal pregnancy clinic could be run for \$16 per patient

ETHEL CARY

Kees, Jr., E. L. Concerning Apparent Cures of Renal Tuberculosis. *Surg Gynec & Obst* 1914, 21, 4. By Surg Gynec & Obst

The author reached the following conclusions regarding apparent cures of renal tuberculosis.

The symptoms of renal tuberculosis depend rather upon the extension of the disease to the pelvis, ureter and bladder or to the perinephritic tissue than to the lesion in the kidney itself.

2 Hence tuberculosis may exist for some time in the kidney without causing any symptoms.

3 Hence also long periods of quiescence may occur corresponding to aseptic occlusion of the tubercular lesion.

4 During this time no tubercle bacilli may be found in the urine and the author's cases suggest that pathological examination of the tubercular kidney removed during a quiescent period might suggest the possibility of healing without total destruction of the kidney.

5 But relapse inevitably occurs and the kidney never ceases to be actively tuberculous until it is totally destroyed.

Belikoff Schtomitsch Diagnosis of Paranephritis (Zur Diagnostik der Paranephritis) *Med Ober* 913 733. By Zentralf d ges Ch Grenzgeb

The author points out the difficulties in the classification of suppurations in the fatty capsule of the kidney, and does not regard the latest attempt at such a classification as conclusive though he recognizes the anatomical research in regard to the distribution of the suppurations as authoritative. He emphasizes the importance of early diagnosis.

The following pain points are pathognomonic: (1) Immediately below the anterior superior spine of the ilium the point of exit of the cutaneous femoral nerve and in the upper surface of the thigh the distribution of the subcutaneous twigs of the same nerve; (2) above and in the middle of the crest of the ilium the point of exit of the cutaneous branch of the iliohypogastric nerve; and (3) above the posterior superior spine of the ilium the point of exit of the ilioinguinal nerve. These three nerves run between the kidney capsule and the quadratus lumborum therefore their involvement in the irradiation of pain in inflammations of the fat of the kidney.

These pain points which can establish a diagnosis of paranephritis in the very early stages when the lumbar region is not sensitive are also of importance in the differential diagnosis of other retroperitoneal especially retrocæcal suppuration. In retrocæcal suppuration the signs of pus with bending of the thigh are characteristic. Besides the pain points the temperature and neutrophile leucocytosis are diagnostic signs in paranephritis. Three case histories of paranephritis and two of retrocæcal abscess are given diagnosed in accordance with the above assertions and confirmed in operation.

S KOWAKO

Luzor J Albarran Marion a Method of Nephropexy (De la néphropexie—procédé d'Albarran-Marion) *Thèse d'oct* Par 1913 Dec. By Journo l de Chirurgie

Nephropexy is being abandoned by the majority of surgeons. Luzor's argument for its retention is based on 35 cases. All of these cases were operated on by Albarran's method of utilizing flaps of capsule modified by Marion so that the lower pole of the kidney is not entirely separated from the capsule. The latter forms a sort of hammock which holds the organ and the fixation is performed higher up. The upper flaps of capsule are fixed above the eleventh rib. Surgeons are disagreed not so much as to the method of operation but rather as to the indications for it.

The end results obtained by Marion are interesting. Luzor got complete late reports on 28 patients; one case which was a failure due to mistaken diagnosis is excluded. The other 27 patients had pain in the kidney region. 6 of them seem to have had crises of renal strangulation. Of the 27, 15 were relieved from pain, 12 of them were improved but continued to suffer abdominal pain and on examination the cause of this pain was found in the genital system once in the appendix twice in the gall bladder once in the stomach once due to ulcer. 4 patients had enteritis and 3 movable left kidneys. Sixteen of the patients had nervous troubles in 3 cases these troubles disappeared entirely in 4 cases they were very much improved, 3 of these being neuropaths. In 6 cases they were improved—3 of these were neuropaths one of extreme degree. In 3 of the cases there was no improvement. 10 patients had digestive disturbances which in 6 cases disappeared entirely, 2 of these patients had appendectomies performed, one of them had enterocolitis.

One case was very much improved after a later appendectomy. Nine times there was slight improvement, two of these patients have chronic appendicitis and have not yet been operated on. In 1 case there was no improvement. Among these 10 patients there were 3 cases of enterocolitis and 8 of appendicitis. 8 patients had general peritonitis and 4 of them were benefited by the operation.

These results are very encouraging and they would have been better as Luzor points out if the supplementary operations demanded by the patients could have been performed such as colopexy, hepatectomy and appendectomy. These operations could have been performed at the same time as the nephropexy.

GASTON PICOT

Post W E. The Effect of Tartrates on the Human Kidney. *J Am Med Ass* 1914 Jan 59. By Surg Gynec & Obst

The unfavorable results in experimentation on rabbits in the subcutaneous and by month introduction of tartrates—Rochelle salts—to prove renal destruction especially of the convoluted tubules by Underhill, Wills and Goldschmidt and later

corroborated on dogs by Pierce and Ringer, is denied by Post as not being true in the human kind where an ordinary dose of two or three drams is given. The smallest toxic dosage for a well fed rabbit was ten grams of Rochelle salts to a 2,800 gram rabbit which would be equivalent to 6.7 ounces of salts to a 150 pound man—a dose that would of its magnitude be entirely too toxic to make any logical biological comparison.

Post refers to Fisher's plan of relieving the edema of nephritis by alkalinizing the urine. His case reports following the use of 2 to 3 dram doses of Rochelle salts as a rule showed by the hydrogen ion concentration a lessened acidity. The majority of his cases reported were ones favoring albuminuria on account of the circulation being contaminated with bacteria, yet none of them showed an increased albuminuria, cylindruria or in fact any unfavorable symptoms from the ordinary dosage of sodium and potassium tartrate. CHARLES E. BURR

Ware M W The Futility of Phenosulphonaphthalein as an Indicator of Renal Function
J. U. S. 94 20 46

By Surg. Gynec. & Obst.

An attempt is made by the author to discredit the work of Rowntree and Ceraghty on phenosulphonaphthalein as a functional kidney test and to show that the drug when used for that purpose is valueless. He brings together many quotations from different workers with arbitrary arguments of his own in support of his contention.

According to Ware phenosulphonaphthalein output is dependent upon urinary fraction and gives no true indication of the excretory ability of the kidneys but is purely an acidometric test. This conclusion is based upon the observation that the output of the dye is diminished in certain cases with alkaline urines and also in certain other cases with diuresis which is identical with a diminished acidity such as tuberculosis of the kidney and interstitial nephritis. For experimental refutation is cited the observation of an increased elimination occurring after small doses of anionic irritants and particularly in the presence of lesions caused by nephrotoxic immune serum. For clinical refutation several cases of fatal issue are quoted in which the prognosis had been adjudged good because of a good pathologic output. In conclusion he says:

As for the form of treatment being accurate and precise this is corroborated by the theoretical chemical experimental and clinical evidence herein set forth and which forbids reliance on the extravagant claims of phenosulphonaphthalein as a functional kidney test. F. A. HILL

Beer E: Leukoplakia of the Pelvis of the Kidney and Its Diagnosis. Am. J. M. Sc. 94 210
44 By Surg. Gynec. & Obst.

The author reports from the literature forty five cases of leukoplakia and in addition two occurring in his own practice. Thirty seven cases occurred

in the bladder, eight in the urethra and the rest in the pelvis of the kidney. He claims that this type of change in the mucosa does not as a rule give rise to symptoms except where the particles in their exfoliation are large enough to produce a colic during their passage down the ureter. In almost every instance the condition was associated with either calculus, simple infection or tuberculosis.

In the two cases in Beer experience one was associated with tuberculosis and the other was a pyonephrotic condition. The process is an exfoliating one which from the nature of the specimen studied can only be an exfoliation from a surface of leukoplakia.

In the author's cases silicates were found in the urine and it is of interest to note that these salts in the human body are found mainly in the skin appendages—for example the hair and the nails. In the first instance the patient died from general peritonitis. Autopsy was obtained. The specimen of kidney showed the pelvis filled with white pearly membrane attached to the underlying wall of the pelvis extending down to the ureter. Other wise the kidney was the picture of a tuberculous pyelonephritis. There was a tuberculous destruction of the papilla as well as tubercular foci in the cortex and in the lower half of the pelvis in an area of leukoplakia of irregular shape. LAWRENCE S. KOTZ

Braasch W F Infections of the Renal Pelvis and Ureter. Tex. St. J. Med. 94 22, 195

By Surg. Gynec. & Obst.

The author considers pyelitis part of a general genito-urinary infection in which the actual infection is confined largely to the pelvis of the kidney.

Cases may be divided into two groups: those due to ascending infection the result of mechanical obstruction of the urinary tract and those due to descending infection from the kidney or part of the pyelonephritis. The infection is more frequent in males than in females. The cause is unknown. It is nearly always bilateral. With pyelonephritis pus is nearly always found in catheterized specimens from both kidneys but the infection may be temporarily inactive on one or both sides as evidenced by the absence of pus and bacteria in the urine and changes demonstrated by the ureteropyelogram may be the only positive evidence of bilateral infection. An absence of pus after a course of treatment would not necessarily indicate a permanent cure. It may indicate that the process is temporarily dormant.

Almost every case of pyelitis is accompanied by cystitis. In the male almost every case of cystitis shows evidence of past or present renal infection except in cases due to urethral obstruction or trophic disturbance. In the female cystitis is not so frequently accompanied by pyelitis. The severity of the cystitis is no clue to the severity of pyelitis.

Pyelitis resulting from mechanical obstruction to the urine differs from that of descending infection in that when the obstruction is removed the pyelitis will disappear unless considerable kidney

destruction has taken place. In the female mechanical pyelitis is most frequently due to pregnancy. It is not extensive and clears up readily. Pain is not usually severe—when severe it may be the result of mechanical obstruction to urinary secretion, increase in intrarenal tension resulting from diffuse cortical infection or perinephritic infection. Mechanical obstruction is caused by occluding blood-clots or by cicatricial change about the pelvis and ureter subsequent to perinephritic infection. In long standing cases pain, chill and fever accompanies sporadic acute infection of the adjacent parenchyma.

Pyelography is most useful in the diagnosis of pyelitis in ascertaining the degree of renal destruction and determining whether or not the condition is surgical. The author describes a number of abnormalities of the pelvis, calyces and ureter brought out by the pyelogram.

The diagnosis of unilateral pyelitis from unilateral tuberculosis may be difficult if tubercle bacilli are not found in the urine. The cystoscopic findings may be the same. The pyelogram in pyelitis shows the outline of the pelvis usually well defined, indefinite in tuberculosis. Pyelitis is distinguished from infection of the parenchyma by the clinical picture in acute septic nephritis and by the small amount of pus in the chronic infection of the parenchyma and by the amount of pelvic dilatation shown.

A radiogram should always be made when a catheterized specimen of urine shows pus in order to eliminate stone. Reflex gastric symptoms are frequently present.

In ureteritis infection is usually secondary; it may result from descending infection and involve the whole ureter or it may be from localized infection, appendicitis, pelvic inflammation, vesiculitis or cystitis and is confined to a part of the ureter. When due to ascending infection the entire ureter is seldom involved. The ureterogram demonstrates the course and extent of the inflammatory process.

The author briefly describes the pathology of the inflamed pelvis and ureter. In the treatment of chronic pyelitis he thinks it best to use all three methods in conjunction, namely urinary antiseptics, autogenous vaccines and renal lavage. In cases of mechanical obstruction removal of the cause (nephrectomy) is indicated for persistent unilateral pyelitis causing recurrent attacks of fever and weakness and unilateral hemorrhagic pyelitis. There is extensive inflammatory distention of the pelvis and destruction of renal tissue on necrosis as may be seen with advanced pyelitis. Ureteral obstruction as the result of peripelvic and perireteral cicatricial changes causing intermittent colic.

W. A. C. WELZ

Adler H. Choice of Operation in Impacted Calculi of the Ureter (*Le choix de l'intervention dans les calculs calcifiés de l'urètre*). *Thèse de doctorat* Par 93 Dec. By Journal de Chirurgie.

Adler's work is based on cases published with very little detail. He discusses the uterine surgical

procedures when the calculus is or is not complicated with anuria when kidney stone is or is not present when the condition is primary or secondary unilateral or bilateral, septic or aseptic when there is at the same time a disease of the kidney independent of the calculus in the kidney of the same or the opposite side, etc.

It is impossible to follow the author in his discussion of all these pathological possibilities but the conclusion to be drawn is that an exact knowledge of the functional condition of each kidney is absolutely necessary.

If the kidney is dilated, infected or not functioning, the calculus becomes a secondary matter and nephrectomy is the operation of choice but if it is only moderately dilated has no calculus and is not infected, the ureteral calculus only is to be considered and its removal will considerably improve the condition of the kidney.

As a general rule when there is calculus of both the kidney and ureter a double operation is necessary but patients have been known to recover after ureterotomy when a calculus was left in the kidney. If the calculus of the ureter is movable it may be pushed back to the pelvis and removed together with the urine contained in the kidney but if it is impacted this method cannot be used. The calculus of the ureter should be removed at one operation and a later one performed to remove the kidney calculus. When the affection is bilateral the operation should be performed first on the least affected side.

In the question of anuria, Adler does not have any confidence in permanent catheters of the ureter but prefers ureterotomy or nephrotomy but the arguments he gives and the cases he publishes are not sufficient for the rejection of these two methods of treatment which are universally accepted.

G. STON. PICOT

Dalengen R. Therapeutic Applications of Catheterization of the Ureters (*Contribution à l'étude des applications thérapeutiques du cathétérisme rénal*). *Thèse de doctorat* Par 193 Dec. B. J. *Annales de Chirurgie*.

Dalengen's thesis is a good general review of the question based on 38 cases, some of which are unpublished. Catheterization of the ureters is employed especially in non-tubercular congestion of the kidneys, post-operative renal fistulae and in some complications of renal lithiasis. As to renal infections, the author agrees with Pirion that catheterization of the ureters followed by irrigation of the pelvis often cures recent pyelonephritis if there is no great degree of retention. It is only palliative in old infections such as ascending pyelonephritis and hematogenous pyelonephritis. Long standing extensive suppurations such as pyonephroses and in calculous pyelonephritis. In such cases irrigation cannot be expected to do more than secure asepsis preparatory to operation. A post-operative renal fistula will generally close if a

permanent catheter is inserted in the ureter and the author cases confirm the results obtained by Albarran. The catheter left in position draws the lower part of the kidney straightens out curves in the ureter and dilates constricted parts just as a permanent catheter dilates a constricted urethra.

In renal lithiasis catheterization of the ureters is indicated in three cases. In nephritic colic which lasts abnormally long or in the recurrent forms the catheter left in position dilates the passage and sometimes allows the expulsion of gravel. The same thing is true if calculi are arrested in the ureter above a constricted point. He reports nine cases. In calculous anuria bilateral catheterization has given remarkable results in 2 cases.

Dalengen confirms Flot's conclusions in this respect. Whatever the reason for performing catheterization of the ureters, three rules must always be observed: (1) The catheter must be passed slowly and gently. (2) The permanent catheter must never be left in longer than 48 hours. (3) During this time the pelvis and bladder should be irrigated several times a day with antiseptic solutions.

GASTON PICOT

BLADDER URETHRA AND PENIS

Gérard M. *Injuries of the Bladder by Impalement* (Des blessures de la vessie par impalement). J. d. M. 1911, 540. Hyg. J. urol. d. Chirurg.

If an individual falls and is impaled on some object the bladder is more apt to be injured if it is full and if the object is oblique from behind for ward. In man the point of entry may be through or near the anus. This is much the more frequent including 83 per cent of the cases, in such cases both rectum and bladder are injured. If the point of entry is through the perineum or scrotum the bladder alone is involved.

In the first class of cases the injury to the rectum may be artifice in extent and severity. The prostate is rarely involved only 2 cases being reported and lesion of the ureter and seminal vesicles are also rare but if the injury involves the peritoneum the intestine may be perforated. Out of 63 cases the peritoneum was involved 23 times or in 36 per cent of the cases. Cases of the second class are rare. Only the foreign body penetrated through the perineum in behind the scrotum. The injury is generally at the base of the bladder or in the lower part of the posterior wall and the membranous urethra is often torn.

In women the most frequent lesion is injury of the bladder through the vagina the posterior surface of the bladder injured and the anterior vaginal wall perforated. The peritoneum is rarely involved. Witzel has one case with injury of the intestine. Injury through the rectum is very rare in women the author has found only three cases. Such injuries are more severe than the vaginal cases because the rectum is also involved. As regard the impact in the penis, bile

in intensity and hemorrhage is generally abundant. If urine flows out through the wound it shows that the bladder is perforated but this may not occur for some hours or even days after the accident either because of anuria, or of retroperitoneal infiltration of the urine or because the edges of the wound are sealed up with clots so that it is not safe to conclude that the bladder is intact if urine is secured on catheterization. The urine may be discharged continuously through perineal or vaginal wounds or it may accumulate in the ampulla of the rectum and be discharged only every two or three hours in the form of a liquid stool if there is a perirectal wound and the anus is intact. If the anus is torn there will be continuous discharge of urine and fecal matter. Injury of the rectum may be manifested by discharge of gas and fecal matter through the urethra. Symptoms of peritonitis appear if the peritoneum is involved. The lesions at the point of entrance do not give any idea of the extent of injury to the bladder, rectum, and peritoneum. The extent and form of the lesions are disclosed by rectal palpation and whether there are perforations of the rectum and bladder. Catheterization of the ureter may reveal an injury to the ureter and the injection of air into the bladder shows whether the peritoneum is involved. Rectoscopy is a valuable aid in the diagnosis.

The course depends on whether the injury is intra or extraperitoneal. Death resulted in 85 per cent of the cases of peritoneal involvement generally after 4 to 36 hours but sometimes as long as 60 days afterwards. Surgical treatment however has since lowered this mortality to 20 per cent. The prognosis favorable in extraperitoneal cases, the immediate mortality being barely 5 per cent. Mortality by the natural route generally being neglected completely although if the urethra has been involved there is apt to be stricture as a sequel. The point of first importance is the often difficult problem of finding whether the peritoneum is involved or not. The bladder should be catheterized at once. If the patient has not urinated to several hours if the bladder is empty and the urine has not collected along the course of the wound it is reasonably certain that there is an intraperitoneal penetration of the bladder. Insufflation of the bladder will reveal it. If the urine withdraws by the catheter it is clear it is probable but not certain that the bladder is intact if the urine is bloody it is doubtful. In such cases the patient must be carefully watched for the very first signs of peritonitis. Perforation of the peritoneum being excluded the next thing to determine whether the ureter or bladder is injured. Catheterization of the ureter will determine this.

Early complication are hemorrhage and infiltration of the urine into the retroperitoneal or pelvic cellular tissue secondary ones are infection the formation of a retrorectal phlegmon, cystitis ascending pyelonephritis, orchitis and epididymitis. Late complications sequelae are stricture and foreign

bodies in the bladder these are often fragments carried into the bladder by the point of the injuring object sometimes bits of the object itself more rarely remains of food or intestinal parasites from the ampulla of the rectum. They may be discharged or remaining in the bladder may cause persistent fistulae or give rise to secondary phosphatic calculi. Vesical fistulae occur in 16 per cent of the cases they may continue indefinitely or they may close after 8 to 14 months the removal of foreign bodies hastens their closing.

Excision of the peritoneum demands as early operation as possible. This consists of laparotomy suture of the bladder and rectum removal of foreign bodies careful cleansing of the peritoneum and drainage. In extraperitoneal injuries expectant treatment is the rule except when a foreign body is retained in the wound or there are complications due to the size or irregular form of the injuring object. Then under anesthesia a careful toilet of the wound should be made and a permanent catheter inserted for removal of the urine. Complications will often necessitate secondary surgical operations such as the evacuation of collections of pus by the hypogastric or perineal route removal of calculi closing of fistulae etc. J. TANTON

Gouriou P. Calculi of Diverticula of the Bladder
(Etude des calculs diverticulaires de la vessie)
Thèse de doct. Par 913 D c
By Journal de Chirurgie.

Calculi of this kind may be lodged either in congenital or postoperative diverticula of the bladder. They may descend from the kidney and become lodged in the diverticulum where they may increase in size but more generally they are found in infected cases and are phosphatic. They may increase in size together with the diverticulum in cases of retention or they may originate in the interior of the diverticulum by the concretion of salts from a infected urine. The symptoms are the same as those of movable calculi.

The lithotrite does not give as clear a sound because the stone is partly buried but rectal palpation often gives more exact information because the calculus is not pushed away by the finger. Cystoscopy which may or may not be supplemented by radiography of the bladder itself is filled with collargol is the only way of getting exact information as to the condition the size and number of the calculi and the degree of stricture of the neck of the diverticulum.

Lithotomy not being used as a means of treatment for these calculi excision is the operation of choice. If the calculus is large and friable it can be crushed while in position with the fingers for example a lithotrite. If it is small the neck of the diverticulum may be dilated with forceps. If neither of these procedures is possible the diverticulum must be excised. Prostatectomy is indicated as a supplementary operation for these calculi are generally associated with retention. GARRO PICO

Marion G. Resection of Diverticula of the Bladder
(De la résection des diverticules de la vessie)
d. et 913 1 785 By Journal de Chirurgie

The removal of subperitoneal diverticula is simple when they can be reached and invaginated like the finger of a glove but it is often difficult when they are located laterally or posteriorly and the walls are adherent to neighboring tissues.

Marion had a case in a young man of 18. Cystoscopy showed an orifice on the right lateral wall of the bladder and radiography after filling the bladder with collargol showed two cavities of almost equal volume lying beside each other. He recommends the following technique.

Catheterization of the ureter on the side of the diverticulum either before the operation through the cystoscope or during it through the opened bladder.

1. Suprapubic incision opening of the bladder and finding the location of the diverticulum with the finger.

2. Dissection of the bladder on the side of the diverticulum till the pedicle of the diverticulum is reached.

3. Incising the bladder wall up to the orifice of the diverticulum.

4. Dissection of the diverticulum one or more fingers are introduced into it and it is isolated like the neck of a hernia a ureteral sound should be introduced to protect the ureter.

5. Resection of the pedicle of the diverticulum.

6. Repair of the bladder wall by suture in two stages one involving the whole wall without penetrating the cavity of the bladder the other involving only the muscular layer.

7. Early closing of the bladder with drainage of the bladder and perivesical space. The perivesical drain is removed when the discharge becomes negligible and the bladder drain removed a few days later and replaced by a permanent catheter until the bladder is closed. J. TANTON

Heitz-Boyer M. Mixed Treatment of Certain Tumors of the Bladder (Du traitement mixte des tumeurs de la vessie)
J. d. et 913 1
793 By Journal de Chirurgie

The endoscopic treatment of tumors of the bladder by high frequency currents electrocoagulation (Heer) or electric sparks (Heitz Boyer and Cottentot) is at present very much in vogue. Besides obvious bloody operations it has the advantage of allowing the pedicle to be treated more completely and surely. However when the tumors are large the procedure is long delicate difficult and fatiguing so for such cases Heitz Boyer proposes a mixed surgical and endoscopic treatment.

The first step consists of a hypogastric incision the tumor being revealed a clamp is placed on the pedicle a ligature is formed below the clamp and the pedicle cut between them. The bladder is completely closed and drained healing takes place by second intention. The operation may be

done under local anesthesia 15 days after the bladder is closed the second stage is undertaken that is the endoscopic destruction of the remnant of the pedicle by a high frequency current. A series of cystoscopies are performed to complete the destruction of the pedicle and to prevent recurrence. The author has made use of this procedure in two cases successfully. J. TAYLOR.

McDonald S. and Sewell, W. T. Malakoplakia of the Bladder and Kidneys. *J. Pathol. & Bacteriol.* 1941 in 306. By Surg. Gynec. & Obst.

Because of the extreme rarity of the condition the authors presented their case of the above to the Pathological Society of Great Britain and Ireland in 1937.

The patient, a young married woman aged 23 had been confined five months previously after which time she had been in bed continuously. Three months later an abscess formed in the right flank. This was not opened but seemed to have disappeared although after that there had been pain in the right flank. Later there had been severe pain in the right flank and in the vulva at the end of micturition. There was increased frequency of micturition but there was no history of hematuria or of the passage of calculi; there was rapid emaciation. The patient had a severe rigor a few days before admission to the infirmary. A fluctuating swelling was found in the left ilio-costal space; there was pyuria and the temperature was 99° F. The abscess was opened and 15 ounces of foul pus evacuated containing bacillus coli. On the sixth day the temperature rose to 101.4° F. and reached 103.6° F. on the eighth day when she died.

At the post mortem examination there was found recent acute pericarditis and a right pleural empyema containing about a pint of thin greenish pus. There were patches of bronchopneumonia in the lower lobe of the right lung. A recent operation wound in the left flank led down to a perinephric collection of pus. There were dense inflammatory adhesions between the capsule of the kidney and surrounding structures. Throughout the kidney substance numerous yellowish white deposits were found varying in size from a pin head to a third of an inch in diameter. The deposits were firm and elastic; some had hyperemic centers and some showed point of suppuration. Softening in places they occurred in clusters and tended to fuse together. In one large deposit the greater part was grayish in color and strongly resembled the wash leather center of a gumma. The nodules were largest near the surface of the kidney and the most entirely replaced the kidney tissue in the lower pole.

The renal tissue was bright pink in color and on the parts free from the larger deposits showed minute points and streaks of infiltration through the medulla into the cortex. The apices of the papillae showed nodular infiltration with hyperemia on the surface. The pelvis of the kidney showed slight granularity of the mucosa. The right kidney

showed a similar condition but the deposits were not so numerous nor so large. One mass of fused nodules contained irregular cavities filled with pus and the surface of the kidney appeared to have been infected from it. The arrangement of the lesions on this side was more suggestive of an ascending infection. There was superficial erosion of the papillae with whitish infiltration running inwards into the cortex and the ureters were slightly dilated and thickened. The bladder was lightly dilated at the trigone and surrounding the opening of both ureters were numerous small rounded nodules raised above the mucosa averaging about one eighth of an inch in diameter. The nodules were closely set and extended up the posterior wall almost to the fundus. The individual nodules were semitransparent and grayish in color with a more opaque white center and were surrounded by a hyperemic zone. In places they coalesced so that the mucosa was covered with yellowish white sheets of deposit in areas up to an inch in diameter. The other pelvic viscera showed no abnormality.

The culture developed a pure growth of *B. coli* communis. Lesions found in the kidney and bladder were identical. The impression conveyed by microscopical study was that an essentially new formation with a peculiar type of cell was being dealt with and that there were secondary changes present partly degenerative and partly the result of an inflammatory condition associated with the presence of *B. coli* communis.

The secondary elements are classed by the authors as follows: (1) the large peculiar and characteristic cells hereinafter referred to as the large cells—malakoplakia cells of von Hansmann; (2) certain free and intracellular bodies which have been seen in the other recorded cases and which will be spoken of as the Michaelis-Gutmann bodies after the authors who first described them; (3) leucocytes cells of lymphocyte series and fix cells; (4) stroma and blood vessels and (5) bacteria.

The large cells were found in the submucosa the epithelial lining of the viscus being raised above the level of the mucous membrane by these formations. The individual cells are quite unlike any seen in inflammatory reactions. If only looking unaltered cells present the following appearance. They resemble (1) cells or rather cells of the suprarenal cortex where lying loosely they are round or oval but in denser portions they are polygonal; they are about 10 μ in diameter; regenerate hinges are apparent.

Michaelis-Gutmann bodies were found scattered throughout the deposit. Large cells, numerous bodies of pyknotic and characteristic nature. They were most numerous inside the large cells and large number are found toward the periphery.

Scattered throughout the lesions were numerous polymorphonuclear leucocytes some well preserved but many obviously of degenerating. Many lymphocyte cells were present; they are also most

numerous at the margin of the deposit and in the bladder they were found in the submucosa. At the margin of the deposits entirely different kinds of cells were found they were spindle shaped and looked like fibroblasts. The impression is that these fibroblastic cells were merely acting as phagocytes.

Stroma seemed to be present in small amounts in the large cells in other places thin walled blood channels were present—sometimes they were sinuoid in distribution. The blood vessels seemed to be of rather incredible number and appeared like blood vessels in inflammatory tissue.

Studies for bacteria and spirochaetes were made but no other organisms were discovered except the *B. coli communis*.

The authors refer to the cases described by Von Hansemann, Michaelis, Gutmann and Loele in 1910, and Hedren in 1911.

Regarding the etiology little is known. Hamla suggested that they might be tubercular but nothing of this character has been proven.

A fact that has been brought out in the table is the frequency of the condition in females. In many cases there has been an entire absence of any urinary symptoms and in the wide distribution of lesions throughout the urinary tract this fact seems peculiar.

The author's case is of special interest from the fact that the woman was only 24 years of age and that the kidneys, bladder and ureters were affected.

There is no uniformity of opinion as regards to these large cells of Von Hansemann. Schaudinn could find no evidence of parasites in them. The most popular view as to their origin is that they are directly derived either from endothelial cells lining the lymph spaces in the tissues or granulating tissue or from granulating tissue cells. The authors suggested that possibly they may have something to do with adrenal rests. The Michaelis and Gutmann inclusions present extraordinary diversity of opinion as regards to their origin. Michaelis and Gutmann saw in them a distinct resemblance to Leyden's bird's eye like bodies but Von Hansemann could see no such resemblance and seemed to think that they were not of parasitic origin. Loele considers apparently that they may be derived from the red blood cells. The authors consider them to be a product of cell inclusions and cell products saturated with blood pigments. The bacteria always present so far have been *B. coli communis*.

The authors' observations do not at the present permit of an absolutely definite conclusion as to the nature of this affection. While the bacillus *coli communis* is constantly present in all reported cases yet it is found so much more frequently in the urinary tract that it is only exceptionally that it could cause such a condition. It may therefore be only secondary. Their studies suggest that the real cause may be due to certain cell nests of developed mesothelial origin which are stimulated to activity with associated specific degenerative changes. This theory also has its objections.

The authors think the name is an unhappy one but was chosen by Von Hansemann from two Greek words meaning soft and "plaques" thus suggesting a relationship with leucoplakia. All agree that from whatever source these cells come they are not the derivatives of the superficial cells of the mucosa thus making the term inapplicable.

A. C. STOKES

Bauerleisen A: An Unusual Parasite of the Female Bladder (Ein seltener Parasit der weiblichen Harnblase). *Ztsch f gynäk Uol* 1913 14 74. By Zentralblatt f d ges Gynäk u Geb richt d Grenzgeb.

A 37 year old woman had had pain and then fever for three weeks there had been a swelling in the left lower quadrant which ruptured externally and discharged pus. The cystoscope showed a perforation of the posterior bladder wall and a living ascaris which was seized and extracted. The patient grew worse with symptoms of pyæmia and died of embolism. Autopsy showed dense bands of adhesion between a loop of small intestine and the bladder perforation of the bladder into an encapsulated abscess cavity of the left pelvic peritoneum chronic pelvic peritonitis and adhesive bands.

Bauerleisen assumes that as a result of the numerous deliveries (12) pelvic peritonitis occurred which led to the formation of adhesive bands between the intestine and bladder the ascaris then penetrated the adherent loop and the adhesion and finally got into the bladder.

COLEMAN

Pauli G. Cystitis with Incrustation (Des cystites incrustées). *Thèse de doctorat* Lyon 1913 Nov. By Journal de l'urine.

In this form of cystitis there are two sorts of lesions of the bladder (1) a calcareous incrustation which may cover its whole surface and which may be of urates but is generally of phosphates or mixed (2) destruction and necrosis of the mucous membrane and leucocytic infiltration of the different muscular layers causing the disappearance of elastic and muscular fibers. There is arteritis and thrombosis of the veins. The process ends in extreme hypertrophy of the bladder walls and reduction of the capacity of the organ sometimes to as little as 25 to 30 cm. The bladder loses contractility and capacity for dilatation. Pauli shows that these lesions may be observed in any bladder infection even in tuberculosis there is no specificity. Clinically the affection resembles any other kind of cystitis. The extreme degree of hemorrhage and pain may lead one to suspect incrustation and cystoscopy is the only method of examination by which an exact diagnosis can be made. The prognosis must be guarded on account of the frequency of renal complications.

There are two methods of treatment cystostomy and incision. Rochet makes a hypogastric incision removes the incrustations with the finger or the curette and ends with a superficial curettage of the whole bladder. Zuckerkandl performs a more

extensive operation in which the lesions are removed with scissors and a sharp curette. The ulcerations are removed like a new growth the openings brought together with catgut sutures and the whole bladder cavity touched with tincture of iodine. In the female curettage may be performed through the urethra.

The author reports cases of both these methods of operating each of which seems to have its value although there may be recurrence. He considers ionization the treatment of choice using a lithium solution for uric incrustation and a chlorinated one for phosphatic incrustation. *C. S. P. R. C.*

Buerger L. Simple Ulcer of the Bladder (Ein einfacher Ulcer des Harnblases). *J. Am. M. A.* 1913, 543. By Zeitschrift für Gynäk. u. Geburtsh. d. Frauenz.

From the study of his own cases Buerger distinguishes two kinds of simple ulcer of the bladder the superficial and the deep-seated or chronic callous ulcer. These so called simple ulcers are of course to be distinguished from diseases of the bladder caused by specific inflammations such as tuberculosis or syphilis as well as from new growth. The correctness of this assumption is confirmed by cystoscopic and pathological anatomical examinations. The clinical symptoms are intense dysuria and frequent desire to urinate there is blood and pus in the urine.

The chronic ulcers are generally located in the region of the trigone. In spite of the fact that they are called solitary ulcers there are apt to be at other places on the bladder mucous membrane one or more secondary superficial erosions.

The quickest and most effective treatment is excision of the ulcerated parts of the mucous membrane by means of an operative cystoscope designed by the author and with forceps having cup shaped points. In all cases of chronic cystitis with the symptoms described above a careful examination should be made for simple ulcer the chronic cystitis and the very sensitive contracted bladder or only secondary symptoms which disappear when the primary ulcer is cured. *D. C.*

GENITAL ORGANS

Dorrance G. W. A Transverse Incision for Operation on the Scrotum. *J. Am. M. A.* 1913, 545. By Surg. J. M. A. Obst.

The author describes a transverse incision for shortening of the scrotum. He claims that this incision is favored by the ligation of the arteries and nerves at the end of the scrotum and may be made between the vessels in this way a larger portion of the scrotum may be removed. Likewise the cremasteric muscle is severed a result not obtained by the longitudinal incision transversally sutured. The author claims that this method produces a much better closure than the longitudinal incision. *A. C. S. P. R. C.*

McGlannan A. The Conservative Treatment of Undescended Testicle. *J. Am. M. A.* 1913, 546. By Surg. J. M. A. Obst.

Among the older writers the subject of non-descent of the testicle was treated chiefly from the standpoint of the tendency to the development of malignant disease consequently the only operative procedure considered was the removal of the organ. Further study has shown that malignancy is a less frequent condition than was formerly supposed and occurs nearly always in inguinal retention. Special interest is now centered in the functional power of the organ in an abnormal position the likelihood of improvement of function if transplanted to the scrotum and the possibility of effecting such transplantation.

The abnormally placed testicle tends to remain immature or if spermatogenesis does take place to undergo venile atrophy early. It seems probable that placing the testicle in the scrotum early in life enables infantile organs to develop normally while the performance of the operation after puberty though not necessarily doomed to failure is less likely to be beneficial.

McGlannan has performed the operation on 26 patients in none of which was there atrophy of the testicle—though in several it was necessary to divide the spermatic vessels—and the transplanted organ has invariably remained in the scrotum. *S. W. M. G. R. E. A. D.*

Schäfer A. Technique of Orchidopexy (Zur Technik der Orchiopexie). *Z. für Chir. u. Gyn.* 1913, 630. By Zeitschrift für Chir. u. Gyn.

The author has not always had the best results with Wittel's method of orchidopexy so he has combined it with Longard. His operation in unilateral cryptorchism is as follows.

The spermatic cord and the testicle are exposed and the cord stretched the abdominal ring is closed by Bassin's method the ectopic testicle is pushed over toward the sound side through a slit in the septum of the scrotum and the two testicles are fixed to each other by a few silk sutures. A silk suture is passed through the lower pole of the ectopic testicle both end passed through the skin of the scrotum on the sound side. On left hanging then both testicles are displaced toward the normal side the slit in the septum is closed up as nearly as possible and the cord of the ectopic testicle fastened to the internal inguinal ring. After closing the skin wound light traction is exerted on the silk suture which is left hanging a little saturated with the high fat of the normal side. The wound is carefully dressed to avoid infection and after ten days rest is bed the sutures in the scrotum are removed.

In bilateral cryptorchism in the procedure is the same only the displacement of the one testicle toward the other is omitted. The sutures on each side are fixed to the high fat opposite side. *D. V. E. S.*

Codman E. A. and Sheldon, R. F. The Prognosis of Sarcoma of the Testicle *Boston M & S J* 914, dx 267 By Surg Gynec & Obst

The authors report a case of sarcoma of the testicle which was first diagnosed as tuberculosis of the epididymis. When first seen the tumor was small, apparently involving the epididymis only, and small nodules were present in the other epididymis and one seminal vesicle. There was also a quiescent focus in the apex of one lung. This diagnosis was agreed upon by two genito-urinary and two tuberculosis specialists. At the end of 9 months however the tumor had increased to the size of a small lemon. Orchiectomy was performed, the growth proving to be a sarcoma replacing the epididymis with a portion of the testis compressed to one side remaining. The sarcoma had not penetrated the tunica albuginea.

After mentioning the latter views as to classification of testicular tumors as expressed in the articles of Chevers and Fwing namely that they are all embryomata, the authors discuss the prognosis of the disease and report the end results of 63 cases occurring at the Massachusetts General Hospital during the past 40 years. Of the cases operated upon the mortality was 58 per cent — deaths due to metastasis.

The cases of recurrence after operation all healed within three years. The only operation performed was orchiectomy. Of 33 operated cases which died from the disease 21 had no sign of metastasis at operation, yet death occurred in all within three years. These figures agree with Chevers's showing that the patient is safe only after the three year limit.

As to operative measures the authors believe that where there is evidence of metastasis, the dissection of the abdominal lymphatics and glands involved as advised by Chevers, Watson and Cunningham and others is justified.

HORACE BRYAN

Goodman A. L. Tuberculosis of the Testicle *Med Rec* 94 LXXX 146

By Surg Gynec & Obst

The author deals principally with tuberculous of the testicle in young children, and in a collative series of 91 cases of different authors about which it occurred during the first two-thirds of life. Heretofore the germinal part in the etiology.

The author states several cases in children between the ages of 1 month and two and one-half years. It is that testicular tuberculosis may appear in the primary isolated man, testis of a secondary complication, the urine of a tuberculous primary tuberculous at the time of infection until it is not extending beyond the inguinal ring to spread the better position of the infection the seminal vesicle and the urinary organ. It is essentially curable for not peculiarly in the epididymis as in adult or it is essential testicular but not of both the testis and the epididymis.

mixing the organs into a pathological mass in which the primary infected organ can no longer be distinguished. Macroscopical examination shows that the mass, which is at first diffuse and indistinctly outlined has a certain tendency to become encysted, the connective tissue which proliferates in the vicinity may even filtrate the gland in its entire extent and atrophy through testicular sclerosis is often the outcome of the infection.

In other cases the tubercular nodule suppurates as in adult cases it is adherent to the skin, then a fistula opens at the exterior at the level of the tail of the epididymis as is the rule in tuberculous fistulae, more rarely other form of tuberculous are observed such as tubercular granulation or nodules scattered in the thickness of the gland granulations or nodules in the head or tail of the epididymis. The vas deferens is often involved but although it becomes indurated as in adults it is attacked only in the lower segment which is still enclosed in the scrotum.

The tunica vaginalis is often the seat of a more or less profuse evaduation in other cases the two layers have become adherent through a plastic process forming a shell as it were around the genital gland. Secondary testicular tuberculosis is usually more extensive and no longer a manifestation of an infection through the blood.

In certain patients the infection is propagated through the lymphatic group or by the vaginoperitoneal canal. An ascending infection through the vas deferens is rather doubtful, the lesions are sometimes bilateral in these cases and the seminal vesicles or the prostate are apt to be the seat of indurated nodules or even suppurative foci. Clinically these changes begin with acute symptoms or they may be chronic from the start. The chronic types are essentially indolent and their existence is only revealed accidentally or by the appearance of abscesses and fistulae. According to all writers, the primary forms are relatively benign in character whereas the remote results of the secondary group are extremely unfavorable and the invasion of the testicle is here interpreted as a sign of profound intoxication of the organism indicative of a fatal outcome.

CLARE CE R O CROWLEY

Bugbee H. G. Further Observations on the Use of the High Frequency Spark for the Relief of Prostatic Obstruction in Selected Cases *M & R* 94 LXX 95

By Surg Gynec & Obst

The author reports four additional cases of benign obstruction and four of carcinomatous prostates (making in all 22 cases) which he has treated by the high frequency spark. He classifies the cases of benign prostatic obstruction suitable for this method of treatment as follows:

Small fibrous prostates forming a hard ring about the bladder neck, not only constricting the interurethral orifice, but interfering with the function of the internal urethral sphincter.

2 Enlargement of the median lobe unaccompanied by lateral lobe enlargement

3 Lobes left after incomplete prostatectomy

4 All enlargements where operation is refused or contra indicated by the condition of the patient

A one tenth inch spark is used and the tissue destruction extends about one fourth of an inch below the surface. The case reports show that after a course of treatment some of the patients completely empty their bladders

B S BAASVOR.

Bryan R. C. Prostatic Hypertrophy and Its Relief by Surgical Measures. *J. & M. S. Monthly* 914 & 915 By Surg. Gynec. & Obst.

After a discussion of various factors in etiology and symptomatology and a review of several methods of prostatic removal Bryan concludes that the following are essential in the proper care of prostatic enlargement

1 Careful and not too hasty preparation of the patient for the operation from one to several weeks if necessary

2 The two-stage operation in infected cases and in cases of loss of cardiac and renal compensation the cystostomy always being done under local anesthesia

3 High vesical incision

4 Care about the spine of Retzius

5 Intra urethral enucleation always by choice the only instance where it cannot be done being in the marked case of contracture of the neck. The mucous membrane over the most prominent part of the gland is incised and the removal carried out

6 No pricking of the prostatic cavity

7 No urethral medication irrigation or instrumentation

8 Syphonage by double flow catheter which is kept up two to three days

9 Induction of

10 Encourage the consumption of liquid and food

11 The patient should be allowed to stay in bed ten days or more

J S ESTER.

Freyer P. J. Cancer of the Prostate. *Urol. & Cut. Rev.* 94 & 95

By Surg. Gynec. & Obst.

Freyer reports 276 cases of enlarged prostate of which 175 or 63.4 per cent were due to malignant growth

The symptoms of malignant disease of the prostate are similar to adenomatous enlargement with other symptom superadded. Among the symptoms are the rapid enlargement of the prostate during a few months especially in patients under 50 and over 60 years of age. progressive loss of weight a feeling of lumbar debility and undue fatigue anorexia pains in the sacrum loins in one or both thighs along course of urethra or in the perineum a lypa and soreness in one or both buttocks when sitting down due to pressure on nerves

Freyer considers haematuria a more frequent complication of adenomatous enlargement of malignant disease. Physical examination shows a marked hardness of the prostate with irregular outline all defined lobes and partial or total obliteration of the median furrow. The most characteristic feature is the immobility of prostate from surrounding structures palpation usually elicits much pain

As regards treatment Freyer states that in advanced cases of carcinoma of the prostate it is quite impossible to effectively remove the gland and amehorative treatment only can be considered. However when the prostate can be removed in toto while the malignant disease is confined within the true prostate capsule then a perfect cure can be looked forward to. The operation is attended with no more danger than in cases of simple hypertrophy

J S FINESTADT

Legueu Morel, Marion Thévenot and Gayet. Surgery of the Prostate (Contributions à la chirurgie de la prostate). *C. & J. Par. franc. & de P. et* 93 Oct

B J. Ann. de Chirurgie

An entire session of the recent French Congress on Urology was devoted to a discussion of the surgery of the prostate. A résumé of some of the papers read follows

LEGUEU and MOREL discussed the clinical value of eosinophilia in prostatic cases. In studying the blood of 85 patients with various diseases of the prostate these authors noted that the leucocyte count varied according to the nature of the disease. They noted especially the increase in the eosinophile count in 90 per cent of the cases of adenoma. Independent of the effect of any parasitic infection or medicine this eosinophilia averaged 5 per cent in cases of adenoma of the prostate which were not infected and did not show haematuria. It was apparently due to the adenoma for it disappeared after the operation and moreover histological examination of the adenoma showed in the zone surrounding the urethra an abnormal proportion of eosinophiles. Although the eosinophilia in prostatic case is not specific reaction it has a real diagnostic value. It may settle the question of differential diagnosis between a neoplasm and an adenoma and reveal in prostatic cases without a prostate the presence of minute adenomata which clinically would be unsuspected

MARION reported having practiced suprapubic prostatectomy in six cases of chronic prostatitis which had been treated for a long time by all other means without any results. The technique he described of these operations is not like that for hypertrophy. The neck is not removed but only the two inflamed lobes of the prostate. The bladder is opened and an exploration made behind the neck of the bladder for the two more or less pronounced projections under the bladder wall which represent the two lobes of the prostate. Where necessary a finger in the rectum aids in the

examination. Then an incision is made with a bistoury in each of these projections starting from the neck and directed obliquely backward and outward passing through the bladder wall. Then the finger is introduced into each of these incisions and the prostatic lobes are directed and removed. Thus he claims is comparatively easy and he thinks it is a mistake to suppose that a prostate that is not hypertrophied can be removed by dissection. There is a point on the anterior surface representing the excretory pedicle of the lobe that has to be torn free. The lobes are about the size and form of smooth symmetrical almond except at this point on the anterior surface.

Marion's post-operative treatment is the same as after prostatectomy for hypertrophy. With one of the patients who was 32 years old and had had complete retention for several months the result was perfect. The other five had the usual symptoms of chronic prostatitis, neurasthenia and discharge. In three cases the results were perfect, there was cessation of pain, discharge and neurasthenic symptoms. In two cases the results were incomplete, the discharge stopped but pain and neurasthenic symptoms persisted. The effects on the genital functions were as follows: Erect on and sexual sensation were normal but in two patients who were examined closely there was no ejaculation, the other patients were not ure in regard to this point. This is a serious consideration in young patients and it is generally they who are afflicted with chronic prostatitis. If the removal of the lobes of the prostate in this way does render the patient sterile it could only be used in special cases where all other methods of treatment have absolutely failed and the patient should be told of it beforehand.

Tirévor discussed the difficulties of diagnosis and operative dangers due to seminal vesiculitis in prostatic patients. He has found that seminal vesiculitis is a relatively frequent in conjunction with hypertrophy of the prostate either in the form of true purpura, chronic vesiculitis or of perivesiculitis. The existence of a little mass prolonging the prostate along the urethra and corresponding lymphatic tract seem to form a part of the prostate and finding it to the neighboring soft parts may sometimes make it difficult to make a differential diagnosis between common hypertrophy and cancer of the gland.

In this connection the possibility of a suppurative vesiculitis should always be taken into consideration. It often accompanies prostatitis and inflammatory adhesions may make the enucleation of a fibroid prostate a very difficult matter. (2) the operation being performed in an infected field care must be taken to avoid infection. (3) it also to be feared that the ejaculatory ducts may discharge the pus from the vesicles into the prostatic wound thus causing infection.

Cayser has studied Ambard's urea coefficient in prostatic cases in a series of 54 cases in which he made 64 determinations of the coefficient from

which he draws the following conclusions. The coefficient by itself does not pretend to furnish a reliable picture of the anatomical changes in the kidney. It simply reflects the physiological condition of a single function, the elimination of urea. Retention especially acute complete retention is an important factor in azotemia, the highest urea content in the blood serum is found in these cases. But the removal of the obstacle by a permanent catheter or cystostomy brings about a rapid decrease of the uremia.

The prognosis is grave only when it persists without change after the retention has stopped. The urea coefficient makes it possible to follow very accurately the improvement brought about by the treatment of the retention and to choose the best moment for radical operation. It does not duplicate the results obtained from determining the amount of urea in the blood. There is sometimes disagreement between the results of these two methods and Ambard's method reveals more latent cases of azotemia. It is also surer and more reliable than the methods by elimination of coloring matters. If it is supplemented by a study of the other renal functions, elimination of water chlorides etc. and by a study of the patient's other organs it aids in giving precise indications for operation and thus in improving the statistics for prostatectomy.

J. DUBOIS

Lower W. E. A Technique for Performing a Shockless Suprapubic Prostatectomy. *U. S. G. Ph. A. 94, 12, 75. By Surg. Gynec. & Obst.*

The shock producing factors of prostatectomy are the anæsthetic, the amount of painful traumatism and the hæmorrhage. Lower seeks to avoid these factors by the following technique: (1) Anæsthetizing morphine and scopolamine an hour before the operation. (2) placing 60 to 90 ccm of 5 per cent alpinin solution in the bladder immediately before operation. (3) using nitrous oxide as the general anæsthetic. (4) infiltrating with a 1-400 solution of novocaine. (5) the site of the suprapubic incision in the skin and fascia. (6) the anterior bladder wall. (7) the bladder mucosa over the prostate and (8) by deep injections the prostatic capsule at the sides of and beneath the gland. (9) using careful and gentle manipulations in the enucleation. (10) packing narrow strips of gauze about a retained catheter on top of the mucous membrane so as to obliterate the dead space, bringing the ends of the urethra together and prevent hæmorrhage.

S. W. MOORE

Allen C. W. Prostatectomy under Local Anæsthesia. *U. S. G. Ph. A. 94, 12, 75. By Surg. Gynec. & Obst.*

The author discusses the surgical technique of prostatectomy with local anæsthesia. He injects one sixth of a grain of morphine and on one hundred fiftieth grain of scopolamine one hour before operating. The bladder is opened by an

otitis media and are enumerated somewhat in detail and the fact referred to that beginning mastoiditis is an inflammation of the mucous membrane lining the mastoid antrum and cells and is usually an acute process. Development of osteitis causes breaking down of the cell walls and the formation of cavities or even one large cavity in the mastoid.

He describes the symptoms of acute mastoiditis which are well known and says that an acute suppurative mastoiditis that runs a very brief course of three or four or ten days apparently recovering indicates a streptococcus mucosus infection and three or four to six weeks later a fulminating type of mastoiditis may develop.

He lays stress on one particular point in examining acute and subacute cases viz. that as the innermost portion of the external auditory canal at its posterosuperior quadrant forms a part of the antral wall and if inspection shows a bulging over this area delay in operating is at best a waste of time as an operation is indicated and postponement only jeopardizes the patient's hearing or even life. This he considers the most important indication for an early operation with the exception of symptoms of a grave nature indicating intracranial involvement.

As a means of diagnosis transillumination is recommended by the writer but he admits its unreliability and perhaps does not give sufficient importance to the skiagraph which is a very useful aid to diagnosis. He terms an antithetical blood count advocated by McKernon and Sonders as an important aid and the coagulability of the blood on which Levanitschich lays some stress is also considered as a means of differential diagnosis.

The prognosis of mastoiditis he considers depends on so many factors that even to name them would occupy too much space. Where there is free drainage with no complication it is generally conceded there is no danger to life but this applies to the time being only for at any time this free exit of the discharge may be obstructed and serious symptoms supervene. It is to the fact that a large percentage of acute mastoiditis may recover with suitable and efficient treatment but in chronic mastoiditis a large percentage is much smaller which would seem quite obvious. The outlook for

the young he considers not so good but after the age of forty it is much better.

The treatment of mastoiditis is divided into prophylactic conservative or ameliorative and operative the prime object being conservation of hearing. As prophylactic methods he recommends the removal of the usual predisposing causes free and prompt incision of the drum membrane in acute otitis media thus establishing free drainage. Suitable treatment in every case of discharging ear should be recommended. In ameliorative treatment asepsis he regards as the *sine qua non* he is of the opinion that irrigations with the mildest antiseptics may be used rarely but thinks it is a method not much to be recommended and prefers alcohol or benzine as a better means of cleaning the ear and dressing with a strip of gauze best meets all requirements. Powders he says are practically no more used as they do not penetrate the crevices and are apt to cake and thus interfere with drainage.

As the best treatment short of operation he recommends the use of a silver nitrate or copper sulphate or the cautious use of the cauterizer or snare to destroy granulations followed by alcohol instillations. In acute cases the usual treatment is adopted.

The author believes subacute cases are some times modified by the use of Crede's ointment or mercurial emplasra and mention is made of the leucodescent lamp having some advantages. He is of the opinion that operation on the mastoid should be performed more frequently at an early date and the danger to life and hearing by postponement is emphasized. W. H. J. M. 504.

Brill W. C. The Use of Vaccines after the Mastoid Operation in Otitis Media & Laryngitis. 94 Ann. 1085. Br. Surg. Gynec. & Obst.

The author reports the favorable result obtained in five out of six cases treated with vaccines autogenous or stock so bacterial infections complicating mastoidotomy. He reports cases presenting complications of infiltration of the cervical glands, elevated temperature, obscure cause delayed granulation of wound pain in limbs and back, post-operative pneumonia and infection of the labyrinth. FLEMING PATTERSON.

SURGERY OF THE NOSE, THROAT, AND MOUTH

NOSE

Oppenheimer S: The Surgical Anatomy, Diagnosis and Treatment of the Inflammatory Affections of the Nasal Accessory Sinuses in Children
Med Rec 9 4, 1915 328

By Surg. Gynec. & Obst.

It is the author's opinion that sinusitis, both acute and subacute is more common in the child than is generally conceded and this statement applies not only to the adolescent but also to the small child and infant.

Sinusitis in the child is practically never of primary origin but the close relation of these tissues with the nasal mucosa is such that when the latter is inflamed the former must invariably be simultaneously involved thus explaining the frequency of sinusitis during the infectious diseases of childhood. In diagnosis the author attaches great weight to the intranasal findings, the presence of headache or localized pain transillumination and previous to the tenth year he regards the stereoscopic radiograph as the most valuable single diagnostic medium.

The author advocates conservative treatment based upon the restoration of the drainage system with as little destruction of tissue as possible.

ELLEN J. PATTERSON

Beck, J. C. Histologic Pathology of the Accessory Sinuses. *Otol Rhinol Laryngol* 9 3, 1914 93
By Surg. Gynec. & Obst.

From his findings in the study of the histologic pathology in 40 cases operated upon for chronic sinusitis suppurative and nonsuppurative in which the symptoms of a rhinitis were prominent the author bases the following conclusions:

That the pathological changes found in the middle turbinate in ethmoid, asthma cases and non-suppurative sinusitis are rarefactions of the bone resembling that to be found in osteomalacia, acromegalia and rickets. This suggests a common etiological factor in some disturbances of the polyglandular system.

In nonsuppurative sinusitis the compensatory absence of inflammatory element and the presence of myxomatous degeneration at the expense of glandular structure is very prominent.

In suppurative sinusitis the growth of round-celled infiltration with tendency to necrosis and granulation formations is characteristic.

The lining of the larger sinuses protects the suppurative process so that it is precluded resolution and the sinuses cannot be obliterated by the entire epithelial lining.

5 The pathological characteristics of both suppurative and non-suppurative forms of sinusitis are frequently met with in the same case.

6 The similarity in the changes of atrophic rhinitis in the early stages and of non-suppurative sinusitis, especially in the bone would suggest a similar etiological factor in the disturbance of the glands of internal secretion.
ELLEN J. PATTERSON

Rau E. Diseases and Pathology of Nasal Accessory Sinuses. *Am J* 1914 30 100

By Surg. Gynec. & Obst.

It has been claimed that of the bacteria most often found as a causative factor of sinus disease the influenza bacillus holds first rank, the pneumococcus next, staphylococcus pyogenes aureus and albus and the streptococcus pyogenes—but whether they enter directly through the nasal passages or are carried by way of the blood stream has not been fully determined.

The pathological changes that take place in these infections and inflammations of the sinuses depend upon the virulence of the infection, the length of time that the disease has been present, the amount of resistance the sinus has to inflammation and the condition of the drainage system.

ELLEN J. PATTERSON

Dabney S. G. Symptom and Diagnosis of Diseases of the Nasal Accessory Sinuses. *Am J* 1914 30 104
By Surg. Gynec. & Obst.

The author cites the cardinal symptoms subjective, objective and external of catarrhal and purulent inflammations of the sinuses and considers the differential diagnosis can be satisfactorily made by local examination of the nose, teeth and eyes together with transillumination and radiography. He mentions the perception by the patient of a disagreeable smell present in the nose as an important indication of pus in a sinus generally in the maxillary.
ELLEN J. PATTERSON

Stucky J. A. and W. S. Treatment of Diseases of the Nasal Accessory Sinuses Surgically and Otherwise. *Am J* 1914 30 105

By Surg. Gynec. & Obst.

The important point in the treatment of all cases of sinusitis is to create and maintain unobstructed drainage of all sinuses and to institute general hygienic treatment.

In those cases requiring intranasal operation the author uses local anesthesia and after operation applies a drop of 1% argyrol (25 per cent) and no packing but sterile perfumed lint (Kyle). The author thinks few cases require transnasal

filtration anesthesia the vesical surface of the prostate is then injected near the base of the gland. The needle is passed through the mucosa in an attempt to infiltrate the region between the mucous membrane of the bladder and the capsule of the prostate. Two or three drams of a one half per cent solution of novocaine containing 15 minims of adrenalin to the ounce is injected at each of the above points. If the gland is very large or there is much of a projection above the urethral opening other injections may be made. A suppository containing ten grains of anesthesia is introduced into the rectum in order to anesthetize it so that a finger can be introduced without any discomfort. The writer remarks that in many cases the introduction of the two step operation is justifiable the bladder being drained first by local anesthesia the prostate being afterwards removed.

While the author's paper is not exhaustive and he does not go much into detail nevertheless the reviewer is of the opinion that this or some similar technique will solve many of the questions involved in difficult prostatic tomies. A. C. STOKES

MISCELLANEOUS

Galliard A. T. Modern Laboratory Methods in the Diagnosis of Surgical Diseases of the Genito Urinary Tract. A. S. G. Pub. Co. 914 1st St. N. By Surg. Gynec. & Obst.

Under the above title Galliard presents the claims of microscopy of the urine to the position among laboratory methods in the examination of patients suffering from lesions of the urogenital tract. He finds it possible to thus recognize the site of the lesions, by the character of the epithelial cells, its character by the variety of cells and intercellular tissues present and the nature of the individual constituents by the nature of the pus-cells, these being coarse granular, refractive and without visible nuclei when the body resistance is good and finely granular with visible nuclei and irregular cell margins when the constitution becomes impaired. Malignant disease can be recognized sterily ulceration has taken place by the presence of the characteristic tumor cells.

Cryoscopy and the microscopic test of renal sufficiency are summarily disposed of.

These tests have been briefly referred to only to be condemned for it is difficult to understand why time should be wasted on them when microscopical

examination affords such positive proof of all that we desire to know regarding renal sufficiency or insufficiency. S. W. MOOREHEAD

Nicoll C. and Blazot A. Non Toxic Antigonor-
rheal Vaccine and Its Use in the Treatment of
Gonorrhoea and Its Complications (L. acm
ti gonococcique atos que so plication
traitement de la blennorrhagie et de ses complica-
tions) J. d. M. 913 1 734

By Journal de Chirurgie

Vaccination for gonorrhoea like all other vaccine treatment has hitherto met with a seemingly unsurmountable obstacle the toxicity of the vaccines. Beadedka sensitized vaccine was a step in the direction of overcoming this but it was not enough. There was always a reaction following the inoculation of the vaccine and sometimes it was very violent moreover sensitized vaccine are not stable.

Nicoll and Blazot have succeeded in entirely overcoming the toxicity of the vaccine and rendering it stable. The efficacy of their vaccine treatment is remarkable judging from 200 cases 24 of which were ophthalmia 25 orchitis 3 rheumatism and 27 acute or chronic urethritis. Cases of ophthalmia recovered after only a few inoculations thus avoiding any serious ocular complication.

In orchitis the pain stops a few hours or a day after the first inoculation and the temperature falls. This rapid recovery prevents sterility. In gonorrheal rheumatism the patient recovers very rapidly after 2 to 8 inoculations the authors cite the case of a woman who had had it for eight months and had recovered on the eighth day of treatment. The action of the vaccine is equally apparent in both acute and chronic urethritis pain cystitis, and discharge stop quickly often after the third inoculation. In old discharges also are quickly cured. None of the patients treated in this way had orchitis so that inoculation of the vaccine prevents urethral complication. In women the results seem to be the same as in men. Recovery was very rapid in two cases of metritis and salpingitis.

In the treatment one half ccm of vaccine is injected each time. Three millions of microbes are diluted with one half ccm of physiological solution. The injection is made intravenously or intramuscularly. It is less and not accompanied by any febrile reaction. In acute cases injections are repeated every day for every two days in chronic cases every two to four days. J. T. 20

SURGERY OF THE NOSE, THROAT, AND MOUTH

NOSE

Oppenheimer S. The Surgical Anatomy, Diagnosis and Treatment of the Inflammatory Affections of the Nasal Accessory Sinuses in Children. *Vel. K c 914 LXIV 328*

By Surg. Gynec. & Obst.

It is the author's opinion that sinusitis both acute and subacute is more common in the child than is generally conceded and this statement applies not only to the adolescent but also to the small child and infant.

Sinusitis in the child is practically never of primary origin but the close relation of these tissues with the nasal mucosa is such that when the latter is inflamed the former must invariably be simultaneously involved thus explaining the frequency of sinusitis during the infectious diseases of childhood. In diagnosis the author attaches great weight to the intranasal findings, the presence of headache or localized pain, transillumination and previous to the tenth year he regards the stereoscopic radiograph as the most valuable single diagnostic medium.

The author advocates conservative treatment based upon the restoration of the drainage system with as little destruction of tissue as possible.

ELLEN J. PATTERSON

Beck J. C. Histologic Pathology of the Accessory Sinuses. *4. Otol. Rhinol. Laryngol. 9:1 221 93*

By Surg. Gynec. & Obst.

From his findings in the study of the histologic pathology in 140 cases operated upon for chronic sinusitis suppurative and nonsuppurative in which the symptoms of a rhinitis were prominent the author bases the following conclusions:

That the pathological changes found in the middle turbinates and rhinoid asthma cases and nonsuppurative sinusitis show rarefaction of the bone resembling that found early in osteomalacia, acromegalia, and otosclerosis and is suggestive of a possible etiological factor in some disturbances of the polyglandular system.

In nonsuppurative sinusitis the conspicuous absence of inflammatory elements and the presence of myxomatous degeneration at the expense of the glandular structures is very apparent.

In suppurative sinusitis the great prevalence of round cell infiltration with tendencies to necrosis and granulation formations is characteristic.

The lining of the frontal sinuses in protracted suppurative cases is so changed as to preclude resolution and the sinus cannot be obliterated unless the entire epithelial lining is destroyed.

5. The pathological characteristics of both suppurative and non-suppurative forms of sinusitis are frequently met with in the same case.

6. The similarity in the changes of atrophic rhinitis in the early stages and of non-suppurative sinusitis especially in the bone would suggest a similar etiological factor in the disturbance of the glands of internal secretion. ELLEN J. PATTERSON

Rau, E.: Diseases and Pathology of Nasal Accessory Sinuses. *N. Y. M. J. 1914. 21: 00*

By Surg. Gynec. & Obst.

It has been claimed that of the bacteria most often found as a causative factor of sinus disease, the influenza bacillus holds first rank, the pneumococcus next, staphylococcus pyogenes aureus and albus and the streptococcus pyogenes — but whether they enter directly through the nasal passages or are carried by way of the blood stream has not been fully determined.

The pathological changes that take place in these infections and inflammations of the sinuses depend upon the virulence of the infection, the length of time that the disease has been present, the amount of resistance the sinus has to inflammation and the condition of the drainage system.

ELLEN J. PATTERSON

Dabney S. G. Symptoms and Diagnosis of Diseases of the Nasal Accessory Sinuses. *N. Y. M. J. 914 21: 1*

By Surg. Gynec. & Obst.

The author cites the cardinal symptoms subjective, objective and external of catarrhal and purulent inflammations of the sinuses and considers the differential diagnosis can be satisfactorily made by local examination of the nose, teeth and eyes together with transillumination and radiography. He mentions the perception by the patient of a disagreeable smell present in the nose as an important indication of pus in a sinus, generally in the maxillary.

ELLEN J. PATTERSON

Stucky J. A. and W. S. Treatment of Diseases of the Nasal Accessory Sinuses Surgically and Otherwise. *Ky. M. J. 9:4 21: 05*

By Surg. Gynec. & Obst.

The important point in the treatment of all cases of sinusitis is to create and maintain unobstructed drainage of all sinuses and to institute general eliminative treatment.

In those cases requiring intranasal operation the author uses local anesthesia and after operation applies a dropperful of argyrol (5 per cent) and no packing but a flexible perforated splint (Kjelsa). The author thinks few cases require extranasal

operation if properly cared for but all treatment both operative and post operative should be strictly aseptic and antiseptic and especial attention should be given to the internal secretions and excretions

ELLEN J PATTERSON

MacFarlan D: The Initial Incision in the Submucous Operation. *J Ophth Otol & Laryngol* 1914 xx, 83
By Surg Gynec & Obst

The author considers the initial incision of paramount importance in the success of the submucous operation. He advocates a straight cut beginning high and posterior to the junction of the columellar and triangular cartilages and inclined forward as it reaches the floor of the nose.

ELLEN J PATTERSON

MacKenzie G W: Complications that May Arise During or After the Submucous Operation for the Correction of Septal Deviations. *Ann Otol Rhinol & Laryngol* 1914 xx, 120
By Surg Gynec & Obst

Complications which may arise during operation are cocaine and adrenalin poisoning, air embolism when infiltration anesthesia is used, laceration of the mucous membrane from faulty initial incision, perforation of the mucous membrane from rapid careless work, retention of bone fragments, fracture of the bony septum and faulty packing after operation.

In order to avoid infection the author operates under strictly aseptic conditions (never performing turbinotomy at the same sitting) and avoids operating in the presence of any acute inflammation of the nose or throat.

Other complications which may follow operation are hematoma, erysipelas, acute sinusitis, and external deformity.

ELLEN J PATTERSON

Carter W W: Operations for the Correction of Deformities of the Nose. *Med Rec* 914
xxxv 137 By Surg Gynec & Obst

The author has devised his bridge splint operation to correct nasal deformities where there is no loss of tissue while in those cases where there has been more or less destruction of the bony and cartilaginous framework of the nose he uses bone transplantation. The bridge splint consists of two small intranasal splints perforated with several small holes and a lightly constructed steel bridge the two wings of which are padded on the edge with rubber lugged together in the middle and their play controlled by thumbscrew. After the correction of the deformity the intranasal splint with silk sutures knotted in their holes are introduced and the suture carried through the roof of the nose. The bridge splint is then applied and adjusted and the sutures tied over the lunge to secure sufficient tension to pull the nose into proper position and thus correct intranasal as well as external deformity.

In those cases where there is a deficiency of the bony framework the author considers that bone transplantation under strict asepsis in every detail

is indicated. He makes a curvilinear incision convexity downward between the eyebrows to the perosteum over the frontal bone and elevating this flap he makes a transverse incision through the perosteum and into the bone in order to favor osteogenesis at this point. After elevating the perosteum for three-eighths of an inch, he elevates the skin and subcutaneous tissue over the dorsum of the nose and without removing the blood from the nasal wound, introduces two inches of the middle rib with perosteum preserved on the outer surface and the upper end inserted under the perosteum flap and closes the wound with horse hair sutures.

ELLEN J PATTERSON

THROAT

Dabney V: Immediate and Remote Sequelae of Radical Removal of the Faucial Tonsils. Observation of Two Hundred Cases. *Ann Otol Rhinol & Laryngol* 1913 xxi 757
By Surg Gynec & Obst

Among the sequelae following tonsillectomy the author classes primary and secondary hemorrhage as most important, then hyperpyrexia, infarct of the lung, sepsis, emphysema, pneumonia, pleurisy, rheumatism, various phenomena and injury to the pillars and adnexa. In order to avoid these he thinks the operation should be performed in a hospital under rigid asepsis, by one experienced in its performance with the anesthetic administered by an expert and the convalescence zealously followed.

ELLEN J PATTERSON

Roberts W H: Tonsillectomy in the Upright Position under Ether. *Laryngoscope* 1914, xxv 131
By Surg Gynec & Obst

The advantages in operating in the upright position are good illumination and accessibility of the parts to be operated on, freedom with which the assistant can sponge control of hemorrhage and prevention of entrance of blood into the larynx, thoroughness with which the operative field can be examined for tonsil remnants and ease of control of patient's head by the anesthetist.

The technique of the author's method of operating is as follows. After the patient is anesthetized in the prone position he is placed in a chair in front of the operator who is seated. The anesthetist stands behind the patient to control the head and continue the administration of ether through a tube introduced into the right nostril. The operator makes his initial incision with a small bladed knife, continues the dissection with a blunt pointed Tyding's knife and the finger and finishes the enucleation with the Tyding snare.

ELLEN J PATTERSON

Johnston R H: Straight Direct Laryngoscopy, Bronchoscopy and Esophagoscopy. *Am J Surg* 1914 xx, 37
By Surg Gynec & Obst

The essentials of a successful bronchoscopy are a thorough knowledge of the anatomy of the parts

a steady hand extraordinary skill in handling instruments and patience and perseverance to carry him through hours of hard work and disappoinment

The author considers it a mistake to economize on instruments and personally prefers those devised by Jackson of this country to those of Killian and Brunings of Europe

The use of general anesthesia is more prevalent in Europe than in this country as American operators are gradually getting away from general anesthetics believing that they greatly increase the danger of tube work. In endoscopic examination of children under four years of age the author uses no anesthesia but in children over eight years of age he uses ether anesthesia for bronchoscopy and deep oesophagoscopy, and for local anesthesia in adults he considers alypin and novocaine less toxic than cocaine

ELLEN J PATTERSON

MOUTH

Blackway H. The Treatment of Harelip and Cleft Palate. *P. Cliner* Lond. 914 xru 9

By Surg. Gynec. & Obst.

This paper was presented with a view of facilitating discussion as to the kind of operation which will produce the best results both cosmetically and functionally especially as regards the nose

The author briefly reviews the history naming Le Monnier as the first to operate in 1764. In 1806 Von Graefe sutured and cured a cleft of the soft palate. In 1819 Roux reported what was supposed to be the first staphylorrhaphy. An important advance was made in 1845 when Ferguson advocated the division of those palatal muscles which by the contraction might separate the edges of the cleft and by the year 1864 had operated upon 134 cases obtaining union in 129 of them. He operated at or after puberty and never used chloroform.

In 1859 Weber of Bonn advocated a method loosely allied to the Brophy method and two years later Reeves tried much the same process by slower means using a padded horseshoe shaped clamp. These suggestions were lost sight of for many years until they were revived and improved upon by Brophy.

To Langenbeck belongs the credit of being the first to deliberately plan the stripping up of mucoperiosteal flap and closing the cleft at the age of choice for operation being 12 to 15 years.

The great advance was made by Thomas Smith who in 1865 advocated operating upon small children before they had learned to speak using chloroform as an anæsthetic. The advantage of operating upon the harelip in a double case is that when the lip is closed the cleft will also close to a very considerable extent. The author's criticism of Langenbeck's operations

is that there is too much scar tissue formed which renders the soft palate less pliable. From the series studied the mortality was found to be 1.4 per cent.

In cases operated upon by the Langenbeck method the mortality was practically nil. The prospects of closure are good even though requiring two or three operations, and while the functional results are at times perfect as a rule there is much to be desired. The author does not agree with Brophy from an embryological standpoint.

As to the prospect of closure of the bony palate the author has not seen cases in which more than the alveolar arch has closed. As to speech development he has not seen patients who have learned to speak subsequent to the operation and says. He Brophy makes no appeal to a series of cases to prove his statement that the patients learn to speak normally.

The author concludes that the Langenbeck operation is the operation of choice offering the best results both anatomically and functionally. If associated with harelip the lip should be done first at the age of 2 or 3 months and the cleft at about the end of the second year.

H. A. PORTS

Dean L. W. Report of a Case of Compound Follicular Odontoma of the Superior Maxilla. *A. Clin. R. & L. J. Surg.* 1933 xru 177

By Surg. Gynec. & Obst.

The patient a young woman aged 20 years sought relief from pain in the upper third molar. The removal of the pulp and filling of the root canals did not relieve her and the tooth was extracted. Two weeks later a seropurulent discharge appeared from the socket and a number of rudimentary teeth were discharged through this opening. Examination showed a sinus leading upward from the socket of the upper right third molar which led into a large cavity. A diagnosis of odontoma was made.

An opening was made into the maxilla above the gingival border and a cavity extending forward, over and external to the first and second molars and inward to the median suture was exposed. The cavity contained a number of rudimentary teeth and irregular pieces of bone thirty five in all. The antrum was opened and found normal. The cavity was drained through the antrum and nose. The external wound was closed but reopened and was finally closed at a second operation.

In closing cavities in the maxilla which communicate with the mouth the author removes enough of the alveolar process to insure a good apposition of periosteum covering the external and internal surfaces of the process. These flaps are then brought together by means of silkworm gut which is passed over strips of very narrow rubber tubing. The suture holds the splints one on the lingual the other on the buccal in place.

H. A. PORTS

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The surgical treatment of the diseases of the nose
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The surgical treatment of the diseases of the nose
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The surgical treatment of the diseases of the nose
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O Ruder H Arch Laryngol Rhinol 1914 94 10

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The surgical treatment of the diseases of the throat
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O Ruder H Arch Laryngol Rhinol 1914 94 10

The surgical treatment of the diseases of the throat
O Ruder H Arch Laryngol Rhinol 1914 94 10

The surgical treatment of the diseases of the throat
O Ruder H Arch Laryngol Rhinol 1914 94 10

The surgical treatment of the diseases of the throat
O Ruder H Arch Laryngol Rhinol 1914 94 10

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O Ruder H Arch Laryngol Rhinol 1914 94 10

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Mouth

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O Ruder H Arch Laryngol Rhinol 1914 94 10

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O Ruder H Arch Laryngol Rhinol 1914 94 10

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O Ruder H Arch Laryngol Rhinol 1914 94 10

The surgical treatment of the diseases of the mouth
O Ruder H Arch Laryngol Rhinol 1914 94 10

The surgical treatment of the diseases of the mouth
O Ruder H Arch Laryngol Rhinol 1914 94 10

INDEX OF SUBJECT MATTER

GENERAL SURGERY

SURGICAL TECHNIQUE

Operative Surgery and Technique

- Preparatory and post-operative treatment 344
- Two-stage operation 533

Anesthetic and Anesthetic Surgery

- Alcohol dressings 220
- Infection with thymol alcohol with odine 9

Anesthetics

- Ether perception, 1
- Anesthesia administration (haloids before) 1
- General, 24 Various methods of 6 Lith 573 Chloroform 457 Intratracheal intubation 3 24 30 Pantopon Scopolamine 3 Nitrous Oxide-Oxygen 572 Spinal 124 344 Sural 457 Local 3 4 30 573 Hedonal 4 Paralysis during 126 respect to shock 3 Influence of carbon dioxide on heart in varying degrees of 345 Anesthetic in post-operative course laparotomy 17 Narcosis Peroral 23

SURGERY OF THE HEAD AND NECK

Head

- Ocular nerve Injection inter 8
- Harelip 7
- Lip Cancer of 18 Uranoplasty by transplantation of flap from upper 457
- Salivary gland Syphilis of 4
- Temporo-maxillary articulation Bilateral ankylosis 458
- Manilla Bony ankylosis of 5
- Frontal sinus Suppuration of 537 Impyema of 30 Tumors of 345 Results of flow grapher 30
- Skull fractures of 458 Surgery of 458
- Hydrocephalus Cisternal drainage for 3 Experimental, 459
- Cerebello-pontine angle Tumors of 6
- Braun Haemorrhage from 459 Tumors of 3 345 346 Surgery of 6
- Dystrophia adiposa genitalis, 8
- Hypophysis Active constituents of 7 Extract of 573, Tumor of 3, Cyst of 346 Diseases of 7
- Pineal gland Tumors of 8

Neck

- Carotid body Tumors of 347 574
- Cervical lymphadenitis Tuberculous, 29
- Submaxillary glands, Branchial epithelioma involving 3
- Parathyroid glands Physiology of 35
- Thyroid Physiology of 8 Pathology of 348 575
- Innervation of 459 Relation of thymus gland to Basedow disease 349 Surgery of 233

- Cotter Observations on 460 Symptom and pathology of 348 Morphological composition of blood 1 349 Simple and exophthalmic 460 Exophthalmic 149 350 460 Operations for 234
- Hyperthyroidism 232 Juvenile 575
- Tetany Observations on 460

SURGERY OF THE CHEST

Chest Wall and Breast

- Breast Cancer of, 9 234 Cystic disease of 461 Amputation of 9
- Chest wall Sarcoma of 35
- Clavicle Fracture of 120
- Thoracic cavity Infection of 130
- Pneumothorax Artificial 9 575
- Pleura Empyema of 35 352 Surgery of 536
- Mediastinum Lesions in region of 10
- Stomach lymphaticus 461
- Thymus, Removal of 46 Relation between thyroid and 35 Hyperplastic 235

Trachea and Lungs

- Respiratory tracts, Mycoses of mucous membrane of 36
- Trachea Cylindroma of 36 Tuberculosis of 3
- Pulmonary and bronchial circulation Study of relation of 236
- Bronchiectasis 576
- Lungs, Ray examination of 462 Abscess of 535 536 Tuberculosis of 34 Gangrene of 352

Heart and Vascular System

- Heart Injury of 463 Treatment of wounds of 464 Rupture of aorta of 1 Direct massage of 0

Pharynx and Oesophagus

- Oesophagus Some interesting cases of 1 Carcinoma of 237 Surgery of 1 465 Diffuse dilatation of 464
- Oesophagoscope 576

Miscellaneous

- Chest Radiology of 3
- Anterior thoracic wall, Teleröntgenogram of 3
- Chest wall, diaphragm and pericardium Transplantation to cover defects of, 3
- Thoracic viscera Statics and mechanics of 1

SURGERY OF THE ABDOMEN

Abdominal Wall and Peritoneum

- Abdomen Treatment of post-operative adhesions of 353 Incisions in 37 Administration of oxygen into 3 Lymphangioplasty for drainage of 38 Surgery of

Congenital defects in skeleton of the trunk 33
 Congenital fragility of bones 145
 Crippled children Gymnastics for 33
 Little's disease 261 592
 Schlatter's disease 593
 Heine-Medin's disease 593
 Paralysis of quadriceps femoris, 368, Infantile 146
 260, 488 489 Spastic 26 489 Surgery for 261
 Flat foot Treatment of 290 49
 Weak foot, Etiology diagnosis and treatment of 33
 369
 Club-foot 146
 Hollow foot, 6 369

SURGERY OF THE SPINAL COLUMN AND CORD

Spine Scoliosis of 34 264 493 594 595 Osteomyelitis of 147 Typhoid of 49 Pott's disease of 147 264 360 493 Tumors of 35 49 595
 Cauda equina Diseases of 597
 Cervical vertebrae Enchondroma of first 596
 Post-sacral dermoid, 36
 Sacrum Ventral tumors of 35
 Forster's operation 494
 Laminectomy for aneurismal sarcoma 36

SURGERY OF THE NERVOUS SYSTEM

Nerves, Regeneration of 37 Luxation of ulnar 370
 Stretching and section of 65 Surgery of 265
 Hypogastric plexus Surgical methods of approach to 18 597
 Gastric crises of tabes Stretching solar plexus for 37

DISEASES AND SURGERY OF SKIN FASCIA APPENDAGES

Burns Treatment of 266 598
 Fascia Tumors of 598 Transplantation of 148 37
 495
 Hygroma cysticum colli and hygroma axillare 598

MISCELLANEOUS

Chloralhydrate-Tumor Ulcer Abscess Ect
 Tumor Cells, Experimental transmission of 48
 Tumors, Chicken 495 and trauma 599
 Cancer Study of 48 Diagnosis of 37 68 Pathogenesis of, 49 Control of 266 37 Prophylaxis of 5 Metastasis formation in experimental 49 Multiple primary 38
 Sarcoma and trauma 49
 Precancerous conditions 50
 Paraffinoma 50
 Arasarcinoid canceroid 373
 Cholesteatomas 50
 Diabetes Treatment of 600
 Shock, Pathology of 39 Physiotherapy of 267
 Nature of 601
 Connective tissue Study of mechanism of growth of 37
 Transplantation of tissues 56 of organs, 267
 Autolytic and homoplastic, 67 Clotting
 adult normal 60
 Parenchymatous organs, Congenital cystic disease of 5
 Glands Acute malignancy 373

Tetanus Treatment of 495 603
 Scurvy of childhood, 39

See Vaccines and Ferments

Serodiagnosis, Alderhalden's 373
 Complement fixation reaction with cerebro-spinal fluid in carcinoma 153
 Wassermann reaction 603
 Vaccine Gonorrhoeal 40 53 603 Therapy 374

Blood

Hæmorrhage Control of 603
 Hæmorrhagic disorders 153
 Circulation Studies on 153
 Blood Changes 374 Isolation of a new vasoconstrictor substance from 374 Difference between maternal and foetal 374 transfusion 268 375
 604
 Thrombosis, 268
 Embolism and thrombosis 154

Blood and Lymph-vessels

Aneurism Traumatic a. removal, 495 Ligation of innominate artery for 535 Treatment of 40
 Carotid artery Ligation of 496
 Varicose veins, Ambulatory treatment of 375
 Portal vein, Ligation of 376
 Thoracic duct Ligation of 41
 Lymphosarcoma and endothelioma Relation of Hodgkins disease to 376
 Hodgkins disease 604

Problems

Streptococci Method of isolating pythogens 497
 Local foci of infection causing systemic disturbances, 54
 Bovine tubercle bacillus, Infection of children with 496
 Tubercle bacillus Relative value of living and dead, 55
 Aerobic bacteria Methods of culturing 497
 Bacterial invasion of blood 55
 Gas bacillus Infection 269
 Septicæmia C. tanicosa in metastasis of 376
 Blastomycosis Systemic 533

Special Therapies

Benzol Treatment of leucæmia with 377
 Pituitary Influence of upon blood pressure of hæmorrhage 4
 Potassium mercuric iodide Study of 498
 Collargol Effect of on infection 604
 Physicochemical treatment of cancer 41
 Chemotherapy of treatment of cancer 77
 Bismuth paste treatment 605

Electrolysis

X-ray Generation of 4 diagnosis, 55 Heat shadows 378 Therapy 43 269 379 498
 Röntgen ray burns, Present-day danger of 499
 Röntgentherapy Experience with 379
 Röntgenograms Removing discolorations from stained, 4
 Radiotherapy of malignant diseases, 44 Technique 606
 Radium and carcinoma 499 and mesothorium treatment, 381 500 treatment of malignant tumors, 380, 38
 Mesothorium Bactericidal effect of 370 Carcinomata treated with 380
 Irradiation of malignant new growths, 606

int reption of 60 Hypertrophy of breast glands during 518 Position of heart and diaphragm during 518 Ferme t 22 not milk sugar in blood serum during 517 Calc m conte t of blood during 205 Therapeutic use of normal serum of 67 Studies of metabolism 517 Thrombosis of vessels t placenta t dur g 295 Modification of hemoglobin cataly or 161 2 66 Intra abdominal pressure in 140 Abdominal measurements 68

I lampy 167 168 626 Pathogenesis f 626 Cause and cure of 626 Rapidly erym 37 Treatment of 61 168 394 314

Cesarean section 61 62 Study of 395 Abdominal 168 Classical, 169 Extraperitoneal 169 94 626 Indications for 394 d ring past 32 395 Treatment of placenta previa by 396 Inc 40 for 396

Abortions, 190 Indications for 169 Criminal Artificial 6 6 Examination in f brile 5 4 Treatment of f brile 306 Simultaneous 5 4 Treatment of 63 170 88 515 Post abortion affection 1 0

Labor and Its Complications

Labor Obstruction in 174 75 515 complicated by myoma 174 Emphysema of face neck and chest dur g 5 6 Vaginal secretion 1 197 Dissection during 174 Artificial premature 74 Menstruation of 627

Delirium t peritoneal hemorrhage during 40 in contracted pelvis 6 7 625 Normal difficult birth 515 Rectal examination d r 2 20, 13 injuries during 280 R pture f ut during 620 R pture of cord during 620 T m of child complicating 620 Sudden death abortif after 178

Representation New manipulations in brow 30 H 1 397

Prolongation of low t trembles beside h d 5 5 R pture f membranes d r g labor and parturition m 123 128

Posterior 1 21 n Oxytocin problem 40 Birth cases of occipital t normal meningocele 4 Birth bh pte of hcl t nd mecha m of 5

Puerperal and Its Complications

Puerperal m 1 4 fever 7 5 0 infect 14 metritis d 4 66 Uterus 1 20 1 1 m 200 t eptox 20 90 pulmo embol m 0

Uterum Hemolytic streptococci in pathology of 76 Dorsal position during 630 Post-abortion 1 and post partum infection 19

Miscellaneous

Human embryo Manner of embedding 293 Lithopedion 402

Fetus t o-he led, 4 2 outside chorion 519

N born Hemorrhage in 64 201 Subdural hemorrhage 20 Menorrhagia in, 64 Tetany of 292

Teru of 633 Signs of mat rity in 201 Serious anomalies in extremities of 1 5 Weight of 632

Birth tra ma 400 401 633 infection 400 Narcosis and anæsthesia in 401 Paralysis in 631

Birth weight less than 3,000 grams 401 Infant mortality 170 hernia n 203

Nursing, Salt fever f 702 Mother milk injurious to own offspring 65

Uteral diagnosis, 66 50, 204 205 399 630 631

Pregnancy Roentgen diagnosis of 630 Principles of n t m d ring 517 Ovulation conception and d ratio of 517 Blood pressure in normal and abnormal 368 Tuberculosis and 631

Natal hygiene 613 Peritoneal dysplasia and multiple tra terne fra t res 519

Placental degeneration of 518

Placental and fetal syphilis, Diagnosis of 520

Placenta Miliary t tuberculous of 294

Placental hormones 29

Placental t e t h u m (wo) internal network in 08

Amniotic f l Ovari f 295 Deficient absorption of 517

Placental t h l tract of 296 nd it act e principles 67

Placental t h l tract of 296 nd it act e principles 67

Placental t h l tract of 296 nd it act e principles 67

Placental t h l tract of 296 nd it act e principles 67

Placental t h l tract of 296 nd it act e principles 67

Placental t h l tract of 296 nd it act e principles 67

Placental t h l tract of 296 nd it act e principles 67

Secondary rays, Therapeutic value of 45
 Non-operative treatment of cancer 136
 Therapeutic technique 44
 Shading diaphragm for improving the quality of
 skiagraphs, 42

Bismuth meals, Technique and standardization of, 498
 Microangiography 378

Military and Naval Surgery
 Military surgery 270

GYNECOLOGY

Uterus

Cervix Lesions of 503 Malignant disease of stump of
 46 Cancer of 46 37 27 382 609 Mixed meco-
 dermal new growths of 607

Uterus, Rare new growths of 48 Adenoma of cornea of
 27 Cancer of 47 57 58 27 72 78 38
 383 501 502 608 Chorio-epithelioma 38
 Neoplasms of 274 Myosarcoma of 47 Myoma
 of 45 273 384 609 Fibromyomata of 274 383
 6 0 Fibroids of 384, 6 6 2 Lipoids in the
 human 503 Perforating hydatidiform mole 48
 72 Cysts of 158 Hernia of 276 Tuberculosis of
 46 158 Rupture of 6 5 Prolapse of 57 39
 160 275 504 612 613 616 Displacement of
 384 385 504 Inversion of 50 275 Retroversion
 of 505 Retroflexion of 614 Ventrofixation of,
 505 6 3 Distribution of extracervical a non-
 striated musculature of 607 Surgery of, 51 5
 161 76 78 81 28 385 5 5 6 4 Hemor-
 rhagea from 38 Dysmenorrhea 50 159 77
 504 Menorrhagia and metrorrhagia 50 Men-
 struation, 48 49 277 384 6

Periodic pains in women 49
 Pessary treatment 5
 Uteri and ovaries after röntgen treatment 40
 Endometrium Inflammation of 5 3
 Symptom complex of climacteric 504

Adnexa and Periteneal C and to 2

Corpus luteum Role of 385 Organotherapy of 506
 Ovary Changes in 506 1 Internal secretion of 506
 Hernia of 6 6 6 7 Tumor of 28 386 6 6
 Sarcoma of 28 Melanosarcoma of 5 Papil-
 loma of 62 Cysts of 82 386, 507 6 6 Dis-
 ease of 507 Periodic swelling of 385
 Adnexa Disease of, 386 508 Inflammation of 6
 Tuberculosis of 52
 Round ligament Desmoid tumors of 387
 Sacro-uterine ligaments, Anatomy and surgical utility
 of 26
 Tube, Glycogen content of mucous membrane of, 5
 Collagen in 386 Inflammation of 26 83
 Gonorrhea of 500 Sterilization of 387
 Pelvic cellulitis, 53

Sterility 507

Castration Therapeutic significance of 53

External Genitalia

Vaginitis Gonorrhoeal inflammation of 54 509 Leu-
 corrhoea of 44 389 Hernia of 283 Carcinoma
 of, 509 Cysts of 6 7, Rupture of 283
 Vaginismus, Is a bloody dilatation necessary in 54
 Vesicovaginal fistula, 54, 388
 Uretero vesical vaginal fistula 63
 Urethra vaginal septum, 617
 Urethra Diverticula of 389 Caruncle of 389 Pro-
 lapse of ureter through, 389 Fistula of 390
 Vulva Carcinoma of 55 Inflammation of 55 283,
 6 7 618
 Labia majora Sarcoma of 3
 Pelvic floor and its relation to general genital pro-
 lapse 55
 Trachelorrhaphy 387

Miscellaneous

Gynecology X ray in 56 Gonococcus vaccine in 620
 Organotherapy in 6 Röntgen treatment in
 39 50 Radium treatment in 61 Parotitis
 after operations in 284
 Internal secretions 284 390, 509
 Female genitalia Tuberculous of 384 285 Relations
 of inflammatory conditions of the colon to 285,
 Effect of tissue extracts on 69 Diseases of
 organs of 39 Trauma of 64 Inguinal hernia of
 56 Fistula of 50, Tumors of 620 Prolapse of 61
 Female pelvic organs, Diseases of 509 Operations on
 64
 Pelvis, Split 6
 Female bladder Deranged function of 65
 Fecal tumor 5
 Ovulation and menstruation Time relation between 619
 Vaginal laparotomies One thousand 61
 Gynecological and neurological diseases 285
 Icteric forms of gonococcus disease 39
 Extract from organs Chemical and physiological
 properties 64
 Passionate phenomena hyperemia and hemorrhage
 of female genitalia 56

OBSTETRICS

Pregnancy and Its Complications

Placenta praevia 87 5 6 3
 Pregnancy, Extra uterine 58 66 5 Intra uterine
 286 Ectopic 30 5 Ovarian, 39 Tidal 58
 286 Changes of hypophysis during 5 Cerebral
 defects during 73 Heart disease and 6 4
 Gout and 503 Pathological fluidity during
 87 Galvanic irritability of muscle in 39
 Vomiting of 6 5 Hemorrhage in late month of

6 Myoma and 17 86 Uterine tumors and
 50 60 6 4 Changes in ovary during, 613
 Ovarian tumors and, 60 3 Abdominal pain in
 57 complicated by puerperitis, 59 Function of
 liver during 70 5 Diabetes of 7 6 5
 Pyelitis in 71 393 6 4 Kidney and 59 73
 393 Tuberculosis and 7 287 Syphilis in, 123
 Hyperthermia in 53 1 Intonation of 17
 Tormentum of 5 4 Hygiene of 89 Artificial

INDEX OF AUTHORS

- Aagaard, V 4
 Abderhalden E 517
 Adams, J G 580
 Adler H 637
 Adler L 503
 Ahlfeld, F 177
 Ahlstrom, E 59
 Albeck, 164
 Albee F H 486
 Albers Schonberg 56 391
 Alexandroff F 609
 Allen C W 645
 Allen L W 404
 Allison V 367
 Amunategu G 587
 André 304
 Andrews, H R 57
 Aroelin, 76 523
 Aschner B 56
 Ashcraft L T 303
 Auerbach J 87
 Austin C A 626
 Aersenz 4
 Achausen 58
 Baar G 3
 B beock W W 4 344
 522
 Bacon C S 65
 Baunbridge W S 32
 B laban, I A 73
 Baldwin J F 50 352
 Balhou D C 572
 Ball C F 373
 Ball tyne J W 63 633
 Bamberg A 45
 Bar L 9
 Baraduh G 349
 Bird y R 6
 Barclay, A E 34
 Barl rth W 504
 Barker L F 377
 Barnes R H
 Barnett, V 5
 Barr A S 65
 Barratt J O H 527
 Barrett C W 393
 Barthe lemy 3
 Basham D W 4
 Basnet R 7
 Basseta 503
 Bassler 360
 B uerensen A 64
 Ba J 50
 B jer H 68
 Bayer R 347
 Beck C J
 Beck E C 8 60
 Beck J C 3 0, 649
 Beck S C 66
 Beckma L H 8 35
 536
 Beckmann W C 607
 Beer F 84 94 30 636
 B likoff Schtom tsch 63
 Bell W B 300
 Bendixen P 47
 Benedek L 130
 Bentham W 306
 Bertzeller I 157
 Berdez, 609
 Berg P 33
 Berkeley C 272
 Bernheim B W 579
 Bernstein H S 299
 Besley I A 252
 B the 30
 Bruttner 28
 Biener L 402
 Billing I 6 479
 B lington W 18
 Bilsted, I 55
 Bize 59
 Bjorlenheim E 386
 308
 Blackford J M 35 460
 Blasdell F E 62
 Blazot 646
 Blakeway, H 65
 Blanchard 489
 Bland Sutton J 8
 Blackland A J
 Bloodgood J C 260 37
 53
 Blum F 8
 Blything J D 47
 Boas, H 603
 Boerma V J 1 203
 Borgs T K 49
 B h W 31
 Bouj 7
 Bole d f K 8
 Bond J 633
 Bondy O 70 58
 Bon A 173 58
 Bonn H K 8
 Bonney V
 Boorstein S W 475
 Boothby W M
 Borst 35
 Bosman-de Kat Angelino
 I 40
 Boss L M 47
 Brausch W I 8
 636
 B din W C 645
 Brauzer W R 4
 Brandt 4
 Brand eiser 53
 Bratton H O 7
 Bra de J 63
 Braun H 3
 Braunstein A 377
 Bred W W 54
 Brehm, O 5
 Bretstean L 6
 Brem W 49
 Brewer G E 533 40
 Bri kner W W 486
 Brido v H 44
 Broca A 39 519
 Brooke B 367
 Brown L 57
 Brown C P 366
 Brown W L 366
 Bruns H D 84
 Brya R C 644
 Buckley P 3
 Buerger L 642
 Bugbee H G 643
 Bulley K 415 478
 Bunting C H 604
 Burckhard G 607
 Burckhardt H 13
 Burdenko 376
 Burnham A C 363
 B tner A J 5
 Byford H T 50
 Cabot H 47
 C bot S 42
 Cadenat, 9
 Call son, J G 347
 Calmann, A 386
 C lot 50
 C he J 47 402
 Can an M W 55
 Candela y Pla W 58
 Cantas, M 488
 Ca tou L 49
 Capelle W 349
 Caraven J 72
 Carman, R D 355
 Caron M 8
 Carr W P 48
 Carrel A 37
 Carsten J H 77 92
 Carter W W 650
 C se J T 43 3 6
 58
 C spary 4
 C spe I 70
 C sselberry, W I 3
 Castagne 603
 C theart J 345
 C ulk J R 39 407
 Chap H D 14
 Chaput 66
 Chase W H 50
 Chastenet de C 21 W 7
 Chatterton F 529
 Chenhall W T 59
 Cheron H 608
 Child C I 5 6
 Child S B 60
 Cholekowsky, V M 620
 Chri tian H A 75
 Chri tian V 74
 Ch rchman J W 36
 Claiborn J H 58
 Clardig C P 5
 Clark G H 345 457
 Clark J G 509
 Clenden g L 55
 Cl to I 287
 Clogg H S 353
 Coats, G 89
 Coburn, R C 4
 Cocks, G H, 89 47
 Codman E A 37 643
 Coerr I H 508
 Cokenow r J W 14
 Cole, L G 17 533 578
 583
 Collins, C A 137
 Colliver J A 262
 Colvin A R 48
 Conklin C B 492
 Cooley T B 154
 Cooper R H 45
 Cope V Z 471
 Corbett J F 360
 Cramer H 57 61
 Crane V W 46
 Credé B 577
 Crede Horder C A 84
 Cnl G W 164 533
 Cross, A E 647
 Crossen H S 75 396
 Crotti A 604
 Cru elhier L 305
 Cubbins W R 6
 Cullen L K 39
 Cumberbatch L P 270
 Cumston C G 47 600
 Cu mingham, A T R 520
 Cunt y 618
 C us, 48
 Curtis, A H 65
 Caemy V 56
 Cayborra A 302
 Dab y S G 649
 Dabney V 650
 Da Costa J C 574
 Dalencon R 637
 D m i, C 56
 Danis R 457
 Danneruth r W T 506
 Darling C C 420
 Dartigues, L 74
 D ule O 507
 Da ves D L 529
 Da es T F 4
 D vi A B 395
 D C B 25 59
 D C H 66
 D D J 6
 Davis J C 395
 Da s, G G 399 499
 D H J 84
 Davy T C 4
 D T M 47
 D y E W 31
 Dea J W 04

Adheral and Peritoneal Conditions 108 209 326
 447 670
 Ovaries Tubes Ligaments Pelvic conditions
 in general
 External Genitalia 109 209 327 44 558 671
 Vagina Vulva Urethra Clitoris
 Miscellaneous 09 210, 3 7 447 558 671

OBSTETRICS

Pregnancy and Its Complications 1 10 3 7 442
 559, 672
 Pregnancy Eclampsia and toxæmia Cesarean
 section Abortion Complications
 Labor and Its Complications, 0, 1 3 8, 443 559
 67
 Contracted Pelvis Abnormal presentations
 Dystocia Hemorrhage Surgical treatment
 Puerperium and Its Complications 1 0 11 328 443
 560, 673
 Diseases common to Infection Hemorrhages
 Miscellaneous 1 2 1 328 443 560, 673

GENITO-URINARY SURGERY

Kidneys and Ureters, 1 2 329 444 560, 674
 Adrenal gland Kidneys Ureters

Trauma calculus displacement, malformation,
 hemorrhage tumors inflammations, etc.
 gery functional tests of
 Bladder Urethra Penis, 112, 13 330 445 561 671
 Trauma calculus, displacement, malformation,
 hemorrhages, tumors inflammations
 Genital Organs 13 224 531 445 56 676
 Testicle Epididymus Spermatic Cord Prostate
 Miscellaneous 14 2 4 331 446, 562 676

SURGERY OF THE EYE AND EAR

Eye 114 14 331 447 563 677
 Glaucoma Trachoma Cataract Inflammations
 Ear 115 15 33, 447 565 677
 Outer ear Middle ear Internal ear Nasal
 tumors Brain bases of otitic origin etc

SURGERY OF THE NOSE THROAT AND MOUTH

Nose Throat and Mouth (and oral surgery) 115 1 5
 33, 447 564 678
 Nose external internal
 Throat tonsils adenoid larynx, pharynx
 Mouth palate cleft palate, teeth tongue
 General conditions

- Jahnke F 615
 Jancway, H H 135 210 601
 Jansz M 594
 Jansz R 75 315
 Jansz R T 304
 Jansz R T 283
 Johnston R H 650
 Jones W 295
 Jones D F 248
 Jones D W C 586
 Jones F O 233
 Jones R 363
 Jordan J F 77
 Jorgensen C 293
 Judd E S 304 461
 Juggling O 1
 Kaasberg I 60
 Kahn L M 20
 Kahuku D J 375
 Kalmanowitsch, I 178
 Kana el A B 44
 Kapasamper G 7
 Karsne H T 236
 Kasanajeff G M 66
 Ka amura K 241
 Kawasoye 534
 Kayser 160
 Keene F E 509
 Keep C 16
 Kehrer E 179 29
 Keitler H 604
 Kelen B 50
 Keller I 51
 Keller R 623
 Kelley H A 33
 Kemp D C 61
 Kerr H H 117
 Keyes J E L 185 635
 Kidd F 77 4 8, 408
 Kienbock R 44
 Kimpton, A R 269
 King A F A 47
 King H M 9
 Kirmanson 58
 Kirschner M 37
 Kjoeth M 9
 Kieckmann E 573
 Kleiner I S 8
 Klemm P 253
 Klotz M 63
 Klotz R 47
 Knapp R L 4
 Knapp A 83
 Koch J 339
 Koehler H
 Kolb K 335 49 70
 Kolisch G 4
 Komar sky M 4
 Koplik, 70
 Kopylow N W 4
 Kostanek K 246
 Kowal G W 5 7
 Kraus F 348 600
 Krause I 6
 Kretschmer H L 300
 Kretzschmar S
 Krugel O 467
 Kron N M 9
 Kroner M 63
 Kronig 6
 Krotoszyner M 209 30
 Kruckenber R 520
 Kuko 192
 Kuter H 297 616
 La (ra ge 84
 Lambert V S 464 600
 Landmann K 577
 Landon L H 4 4
 Landsberg F 169
 La e W A 247
 Lang S 174 467
 Lapham M F 34
 Lardenno G 582
 Lastot-chik J P 4
 Latari J 59
 La T rre 297
 Latzko W 381
 Law A A 35
 Lebedeff C I 5 7
 Lebedew V
 Le Cal E J 375
 Legueu 644
 Leide us, L 630
 Leighton A P 626
 Lej rs 204
 Le Jernel 500
 Leid G A 4 3
 Leid re H 47 49
 Lemon G 75
 Lenormant C 75
 Leo W 503
 Leonard V 46 387
 Lepag 70
 Leporski M J 463
 Lerda G 6 6
 Lerche R 17 35 265
 Lespinae V D 305
 Less 28
 Leszynsky W M 597
 Levi I 49
 Levy R 4 2
 Le W id L T 3
 Lewi D D 25 59
 Le us W H 575
 Lichtenstein 66
 Leigne B 7
 Liehenthal H 4 3 537
 Lidenmann W 70
 Linkefeld J 5
 Linsenmeier G 29
 Lippens 8 370
 Liso skaja S 48
 Liza no P 6
 Little I M 6
 Lloyd J H 3
 Lockwood C D 4
 Loeb V 3 3
 Loh t K 296
 Lohrer L 6
 Loos O 8
 Lord J P 46
 Lorenz A 44
 Lon 76
 Lothrop H A 37
 Lothroy O A 90
 Loudon J 345
 Lov it R W 48
 Lo W J 77 5 3 645
 Louma C L 593
 Luhl H F 69
 Lud g I 63 5 5
 Luetcher J A 3 3
 Luger A 7
 Luzon J 635
 Lynch F W 60
 Lynch R C 309
 Macfarla D 498 650
 Mac Gowan G 305
 Mac Ken G M 44
 Mac Kenrod A 4
 Mac Inty J F 347
 Mac Kenzie A J 536
 Mac kenzi G W 87 650
 Magno 27
 Magruder I P 369 48
 Magill F P 39
 Mag m rna M 6 2
 Mag 624
 Mag R W 345
 Mag pes C C 61
 Magliano D 267
 Magot V J 40
 Magoulis 5
 Magne M I 4 9
 Mag n e D 460
 Mag non 644
 Mag non G 306 639
 Mag rui 59
 Magball H W 490
 Magtan A 55
 Magti C I 358
 Magti E 535
 Magti E D 363
 Magti F H 159
 Magti, I A M 142
 Magti H 6
 Magtiagha A 287
 Magtiachner J 598
 Magti R 497
 Magti son P 34
 Magti-ohn 61
 Magti urer A 74
 Magti 49
 Magti A 67 73 296
 Magti E 504
 Magti E L 368 596
 Magti et 49
 Magtiard F P 529
 Magti Y C H 54 231 348
 Magti 536 53
 Magti Y W J 469 5 531
 Magti t V J 52
 Magti Carthy J F 8
 Magti Curdy S L 3
 Magti Dill J R 38
 Magti Donald S 640
 Magti Gl nna A 64
 Magti Gh J A 609
 Magti Grath B F 26
 Magti Henry P 490
 Magti Kenne D 89 9
 Magti Kunney R 31
 Magti Nealy R W 6 5
 Magti Pherson R 395
 Magti With ma, C A 486 589
 Magti Wachsenbach R O 59 594
 Magti Melchor C 243
 Magti Mencke J D 537
 Magti Mendes de Leon M A 6 3
 Magti Menel E 473
 Merle P 272
 Meyer E 627
 Meyer L 275
 Meyer R 293 511
 Meyer W 11 465 576
 Michel P 485
 Middleton W J 14
 Mignon M 86
 Miller A G 185 416
 Miller R T Jr 133
 Miller R W 309
 Mill C W 9
 Mills, E P 126
 Millsaugh, W P 11
 Mill kuch A 300
 Mill rot orzeff S R 496
 Mitchell V 1 406
 Mitchell J I 3
 M Neil, C 461
 Mol nari, 26
 Moller O 61
 Mollers B 256
 Monrad S 136
 Montgomery F E 160
 Moore 409
 Moore J E 360
 Moo head J J 484
 Morel 644
 Moriarta D C 53
 Morley J 36
 Morse J L 134
 Morton H H 527
 M rton R 498
 Mosher G C 89
 Moskaleff M A 299
 Mullen J 647
 Muller 128
 Muller A 75
 Muller, G P 28
 Mullerheim R 359
 Murard J 406 634
 Muret, M 388
 Murphy F T 535
 Murphy J B 5 9 9 36
 495
 Musgrave W E 373
 Musatow N A 509
 M tel 474
 Mye J S 240
 Myers D W 647
 Nackle 287
 Nagel 900
 N gel W 167
 Nagt T 5 8
 N saroff W M 4
 N mann 63
 N besky O 6 4 6 9
 Neel J C 382
 Neu M 5
 Neumann, H 7
 Neumann J 5 7
 Nicholson W R 626
 N coll C 646
 Nikl s F 206
 Nvon F 57
 Noland L 54
 N rbury L L C 357
 N rri R C 60
 Norton W A 487
 Nov k, J 58 620 6 5

